

# THE SCIENCE CHANNEL

INITIATIVES

## tàtvà - the gist

(the gist of the workshops held at new delhi, mumbai,  
kolkata, bangalore, guwahati and ahmedabad  
between 2002-2003)

*JANUARY 2004*

**SCIENCE FOR EVERYONE**  
initiating a science channel for india



Development and Educational Communication Unit  
Indian Space Research Organisation  
Ahmedabad



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## PREFACE

Satellite based communication revolution has truly made earth a global village. It came to India in 1975 with the ISRO's SITE programme reaching 2400 remote villages in six states of the country. One of the important objectives of SITE was science communications and programming for rural school children. After SITE (1975-76), ISRO was keen that science and educational communication should take a more concrete shape and the DECU unit was formed, taking up a number of projects in subsequent years. These include the Kheda Communications Project (KCP) started as part of SITE and continued till 1989; the Jhabua Development Communications Project (JDCP) undertaken during 1996-2000 and the Training and Development Communication Channel (TDCC) on INSAT, operational since 1995, providing satcom based distance education.

1982 is a watershed period in the history of television broadcasting in the country. The INSAT system, dedicated to the nation by ISRO, was made operational and the onset of colour transmission in the country coincided with the Asian games in New Delhi. It started the process of massive expansion of television network in the country. 1991 saw the beginning of transnational television and beginning of private satellite channels in the country. The results are for all of us to see. There is something like 80 million TV households in the country and 40 million of these have cable connection. One can see as many as 70-80 channels; news and events are broadcast live from practically any corner of the globe. Niche channels for music, news, sports, fashions, entertainment and children abound. Certain channels that can be broadly be described as educational channels such as National Geographic, Animal Planet, Discovery and the Indian educational channel, Gyandarshan are also available. In spite of fairly wide viewership of National Geographic and Discovery, it is widely believed that educational channels are not very popular.

DECU is now involved in the planning and preparation for EDUSAT a satellite dedicated to education and is scheduled to be operational in early 2005. A large number of educationists, educational institutions, and experts are already associated in this exercise. An important segment of Edusat will be Science Channel.

We at DECU have understood from our SITE experience that science communication is not just about explaining scientific phenomena but looking



upon science as part of the everyday activities of life. It was felt that it is important to build up the scientific attitude of audiences, not merely to impart factual information, so the method of science is emphasised.

Adopting a participatory approach to planning for the Channel, several meetings, discussions and workshops in New Delhi, Mumbai, Kolkata, Bangalore, Guwahati and Ahmedabad were organised. These workshops have been instrumental in gauging the needs, requirements, concerns, issues and the expectations of the region from the channel. The final workshop at Ahmedabad has also provided us with the inputs to finalising the Vision Statement for Science Channel. We are now on the threshold of preparing the action plan through which managing the Science Channel in co-operation with other departments and agencies.

“tātvā-the gist” is the gist of the proceedings of all the recommendations made in all the meetings and workshops held in the various corners of the country – New Delhi, Mumbai, Kolkata, Bangalore, Guwahati and Ahmedabad; and the various activities undertaken so as to move the idea of Science Channel forward. A lot has to be achieved, challenges on the way are manifold. The setting up of a management body that would encourage creativity and inspire productivity, facilitate a smooth running of a 24 hour daily transmission, set up appropriate ground networks and reach the homes of the audience. The biggest challenge of all remains the sustaining of the audiences, which lays in the production of high quality programming that is based on the needs of the audiences.

**B S Bhatia**  
**Director, DECU**



## **Executive Summary**

### **Background**

Development and Educational Communication Unit (DECU), Indian Space Research Organisation (ISRO) at Ahmedabad and Vigyan Prasara, Department of Science and Technology (DST), New Delhi have jointly initiated the process of launching the Science Channel on the satellite, "EduSat", scheduled to be operational in the beginning of 2005. A part of the transmission on EduSat will be reserved for Science Channel for science communication and popularisation.

Science and Technology play an important role in shaping a nation's present and future. Science communication is needed to create scientific temper, to see things rationally, to develop an understanding of nature, use it for our benefit without exploiting it, to fight away superstition and usher in a climate for development. Therefore the need to make a conscious effort to popularise science so that more and more people may benefit from it.

Earlier some experiments were carried out through the print media and the television medium for science popularisation. The Government of India has in its recent policy on Science and Technology laid emphasis on science popularisation. For a vast country like ours, it requires an intensified movement across the length and breadth of the country, which can take science to people and bring out the science practised in their day-to-day-life. The proposed Science Channel is a step in that direction.

### **Meets and Regional Workshops**

The efforts were initiated a couple of years ago when DECU had meeting with other government departments and autonomous organisations in the sphere of science and technology. Later, more formally, during the meeting between DECU/ISRO and Vigyan Parsara/DST in New Delhi in 2001 wherein both the organisations decided to join hands and involve other stake-holders in evolving the Science Channel. Many NGOs, Government organisations, individual scientists, media planners, television producers, social scientists and researchers, policy and decision makers and most importantly the 'common' citizen and the audience were involved in the process of conceptualising the Channel. Comet Media Foundation, Mumbai, Centre for Environment Education (CEE), Ahmedabad, Vikram A Sarabhai Community Science Centre (VASCSC), Ahmedabad, contributed significantly at various stages.



The regional workshops were organised to identifying topics and issues specific to the regions and the country as a whole, identifying broad areas and subjects for programmes on the Channel as well as to create an environment and awareness in these regions about science communication through Science Channel. They also aimed at discussing action plans and items for realisation of Channel. Representatives of government and non-government organisations and individuals - science communicators, scientists, technologists, media persons, programme makers, social researchers, sociologists, doctors, environmentalists, cable operators and other stakeholders participated in the workshops.

The focus of workshop discussion was on: content and approach, software generation strategies, receiving end management, multiple media strategy, self-sufficiency of the channel, channel management, structures and organisation, issues for programme production, issues on use and misuse of science, making channel participatory, responsive and interactive, programme distribution strategies and eventually towards realisation of the Channel. They came up with varied recommendations on these themes and as the workshops progressed, the concepts crystallised. Tatva elaborates these recommendations and viewer's perspective studies.

The draft vision statement for Science Channel prepared jointly by DECU and Vigyan Prasar was thoroughly deliberated upon in regional workshops at Mumbai, Kolkata, Bangalore, Guwahati and was finalised during the Ahmedabad Intensive Meet.

The need for initiating a Science Channel and making it participatory and responsive was unanimously expressed by one and all. Salient features of Science Channel, which emerged out of these recommendations, are:

- The Channel will have a broader perspective of science i.e. it will encompass social sciences and general sciences and will not limit to pure sciences alone.
- The Channel will have an Indian personality and 'Science for Everyone' will be the guiding principle for the Channel.
- It will be a channel to reach out to the weakest sections and remotest areas.
- Interactivity will be an integral element of Science Channel.
- Cater to all languages in a phased manner
- Content generation will include participation from the people of all walks of life in various forms.



- The Channel will cater to regional languages in a phased manner though a beginning will be made with programmes in English and Hindi.

### **Name and Logo for the Channel**

Besides the regional workshops, some parallel initiatives were taken. To give an identity to the Channel and create a brand it was decided to have a name and logo for the Science Channel. The exercise was taken up in all the workshops. Later, a name and logo competition was organised involving the undergraduate students of the premier fine arts and design schools of the country. A panel of eminent personalities in the field evaluated three best entries in two different categories of name and logo. With the inputs that were received from the various workshops and the results from the competition, ten (10) possible names for the Channel were selected. This list was sent to a few selected experts from the field of science, literature, film and television medium and their opinion on the above mentioned names for the channel was sought.

### **Communication Brief Writing**

DECU invited VASCSC along with CEE to take up the task of “revisiting” all the 150 briefs prepared for the Satellite Instructional Television Experiment (SITE). Through a series of workshops, the 150 briefs were analyzed and presented in 123 briefs with additional topics for 58 new briefs. These communication briefs are now ready to be taken up for programme production.

During the course of analysis of the existing briefs, it was found that some sort of support material would greatly help the programme makers. Thus, began the preparation for Science Brief Tool Kits for producers. DECU commissioned the preparation of tool kits containing 200 briefs to VASCSC. About 20 tool kits on various topics in physics, chemistry, biology and general science are ready and more are being generated. These tool kits would be reviewed by scientists, media, communication experts and other resource persons. Efforts are on to generate additional communication briefs on the new and increasingly important subjects like Environment, Biotechnology, and Forensic Medicine.

### **Programme Production**

Proposals for the pilot programme production for Science Channel were invited with the objective of showing as flagship programmes for the Science Channel.



After the encouraging response from the Ahmedabad Meet to the screening of *Jigyasa – Ek Jhalak* (a promo feature for Science Channel), and a quickie *Fascinating Ferro Fluids* (magnetic properties of ferrofluids), the preparatory work to identify themes for the programmes and the media research has been started. Programme making is commissioned to the distinguished and experienced production houses and producers from Ahmedabad, Mumbai, New Delhi in this phase. A two-part programme each of 20 minutes duration on biotechnology is being produced. “*Fascinating Ferrofluids*” – is now being produced as a documentary depicting a wide range of applications of these fluids ranging from pharmaceutical to industrial areas. “*Space to Life*” highlights how science and technology can help address the basic needs of the human kind and makes and explains the different applications of space technology through the applications of Telemedicine. A six minute programme “*Heart Talk*” dealing with heart attacks is ready. Some more programmes are in pipeline. Animation based quickies explaining the biological cell and the atom are being planned with leading animators based in Ahmedabad. Similarly, production of a programme “*Marvel of the Day*”, is in progress. It will signify the importance of the day in terms of any scientific discovery and invention, birth of scientists or any other science related event. Currently, the production of first episode is on floor.

### **Business Plan**

A Business Plan for Science Channel has been prepared for running the Channel while competing with the commercial channels. Self-sufficiency of the Channel is of prime consideration though profit making is not the motive/purpose. The plan encompassing management structure, revenue generation, budgetary allocation details, the marketing, distribution, personnel, infrastructure and software licensing plans.

### **Website**

A portal is being proposed for Science Channel, one that would complement as well supplement the television transmission. It will enable interactivity among persons from varied interests through a single delivery platform. It would serve as the communication link (for producers), information link (for students) and be a knowledge bank. The producers may be facilitated by the website to submit the proposals online and down load all required forms from the site.



## **Technical Standards**

For high quality programmes and transmission, technical operating standards are utmost important. Most of the Science Channel programmes will be produced by the outside producers, directors, institutions, production studios, or any other recommended organisation or acquired. A Test and Evaluation Technical Committee will be set up with a standard evaluation set-up to ensure the quality of programmes and technical consistency.

## **Conclusion**

The Science Channel is aimed at demystifying science and inculcating scientific temper. It will be simple, be rooted in the Indian cultural milieu but will not be revivalistic, it will be scientifically authentic, accurate and at the same time it will be interesting and exciting and be an example of 'edutainment'. Science is present in every walk of our lives and so it is imperative that a holistic and integrated view of the phenomenon we observe in our environment – both physical and social – is taken so that people appreciate the intimate relationship of science with their lives. The learning of science has both intellectual as well as practical dimensions. The Science Channel would emphasis on the learning of science rather than teaching of science.







# 1 A SCIENCE CHANNEL FOR INDIA...

(The Need for the Niche Channel)

## Why popularisation of science?

Science and Technology plays an important role in shaping a nation's present and future. Scientific discoveries have always aided mankind in understanding nature and thereby manipulating it. Agriculture is probably the first step taken by mankind towards science. Ever since human race has tried to better its life with the help of science. And now it has become such an integral part of our daily life that we do not realise its existence around us. Science is involved in every step that we take so much so that it is impossible to imagine our present modern mobile world without it.

Science communication is needed to create scientific temper, to see things rationally, to develop an understanding of nature, nature's way, use it for our benefit without exploiting it, to fight away superstition and usher in a climate for development. Therefore the need to make a conscious effort to popularise science so that more and more people may benefit from it.

## Role of the Media

In the direction of popularising science, one of the earliest and deliberate attempts was made during the SITE programme conducted by Indian Space Research Organisation in 1975. As an effort to popular science among rural masses, a series titled "**Science is Everywhere**" was transmitted. After the National Network was established, on and off few science-related programmes on some special scientific events like the "Descent of Skylab" or the occurrence of Solar eclipse were produced by DECU/ISRO and transmitted on its network.

Similarly, Doordarshan also had in the recent past run a very popular science series 'The Turning Point', and 'Planet on the Edge'; dealing with environmental issues. Channels like BBC, STAR TV, CNN do occasionally air few science-

*Indian Space  
Research  
Organisation (ISRO)  
is planning to launch  
**EduSat** at the end  
of 2004, which is  
likely to be  
operational in the  
beginning of 2005.  
A part of the  
transmission on  
EduSat will be  
reserved for Science  
Channel, a channel  
exclusively for  
popularizing and  
demystifying  
science*



related programmes. Presently, of the 69 all-inclusive channels available in Indian markets, only two are wholly science channels.

*The Science and Technology Policy Statement, 2003 lays considerable emphasis on the **need** for popularisation of science.*

With the advent of foreign satellite channels like National Geographic and Discovery it has been proven that there is a good market in India for not just science-related programmes but a dedicated science. In spite of this fact, not enough is being done. The regional language channels have the potential to provide a platform to reach out to the common people.

Lots is being done towards popularising science by scientific organisations, non-government organisations and the print media along with the television medium but more needs to be done in a vast country like ours. Moreover the efforts of the media reaches only the educated and elite class; while the majority of Indians who reside in rural areas have been unfortunately been ignored. At the same time these journals, magazines or video programmes speak the language of the scientists and not that of the people. Most of the scientific achievements and discoveries are met by the media as mere news events and fail to associate them to the life of an average Indian.

### **Need for Science Channel**

- The Science Channel is needed to uphold the human spirit of enquiry, the quest for knowledge, to seek answers from simple to complex issues besides providing the right type of atmosphere and ambience for 'scientific' pursuits.
- There is a growing need to enhance public awareness of the importance of science and technology in everyday life, and the directions where science and technology is taking us. People must be able to consider the implications of emerging science and technology options in areas, which impinge directly upon their lives.
- Science being a process and method rather than a mere branch of knowledge, it naturally permeates every human activity.



- Science Channel can help in accelerating the speed of transformation (already initiated by various agencies and individuals) of the country into a nation of literate and scientifically minded people.
- The Channel can work as a binding link, which would harness the energies of Science Communicators and create a science movement that will overcome the inertia of centuries.
- A dedicated Science Channel will help every Indian to identify our own science heroes – both in our labs and in our lands, take pride in their achievements and have confidence in experimenting with scientific ideas.

*The science channel will  
demystify science  
and inculcate  
scientific temper.*

## **The Vision**

The science channel will demystify science and inculcate scientific temper. It will be simple, be rooted in the Indian cultural milieu but will not be revivalistic, it will be scientifically authentic, accurate and at the same time it will be interesting and exciting and be an example of 'edutainment'. Science is present in every walk of our lives and so it is imperative that a holistic and integrated view of the phenomenon we observe in our environment – both physical and social – is taken so that people appreciate the intimate relationship of science with their lives. The learning of science has both intellectual as well as practical dimensions. The Science Channel would emphasis on the learning of science rather than teaching of science.

## **The Target Audience**

The Science Channel will have a very broad canvas as the target population. It will pitch at urban as well as rural audiences, educated and otherwise, professional, working class and unemployed, young and old. There will be a section catering to specific target audiences like homemakers, senior citizens, students, physically or mentally challenged people. The programmes on the Science Channel will be tailor-made keeping in mind the specific target audience.



## **Interactivity**

**Interactivity** is one of the

USPs of the Science

Channel

Science can become people's science only when they find involvement and appreciation in the making of science communication. Science Channel will not be a one way knowledge provider but built in mechanism that would allow interactivity between the channel and the audience as well as among various sections of the audience. It will not only be people centric but will learn from the people. Science is not confined to the laboratories; science is not the preserve of the scientists. The channel will attempt to bridge the gap between labs and people. 'Science is Everywhere and For Everyone' will be the guiding principle of the Science Channel.

## **Topics**

The topics covered by the Science Channel will be of wide range from pure science like physics, chemistry, and biology to social sciences. The programmes on the Channel will be covering Science areas ranging from Medical Science, Agricultural Science, Life Sciences like Biotechnology, Microbiology, Zoology and Chemistry, Physics, etc. to Astronomy, Social Sciences, IT, Industrial Science, Science News, etc. But it will take a holistic approach and not divide science in typical slots like physics, chemistry, etc. Particular emphasis would be given to programmes on 'Science in day-to-day life'. The programmes would be presented in a way comprehensible to even a layman and making the apprehensive subject like SCIENCE more interesting and intriguing for audience retention.

## **Languages**

This broad canvas opens the door to complex combination of languages, cultures, geo-cultural specialties and lifestyles that is India. Initially, all the Science Channel's programmes will be produced in two languages; namely Hindi and English i.e. there will be two versions of all programmes. India being a multi-lingual country having 18 regional languages, to address this cultural plurality, in the second phase, the programmes will be in the regional languages.



## Software Generation

*"The **Indian** look" – the most  
essential component of the  
Channel.*

In terms of software approach, it will set for itself very high standards of research and production supported by scientific rigour. Content will be important but the communication strategy and production values will be as important. It is through a synergy between content development; production quality and audience needs that the channel will come up with programmes that are authentic and exciting. The Channel will be generating software from its in-house production staff or empanelled programme producers, by acquiring the programmes and by commissioning the programmes to outside producers. An evaluation standard has to be worked out for grading and quantifying the programmes. This would ensure better programme production quality and would be applicable to all the in-house, acquired and commissioned programmes.

## Approach

The approach to making programmes will have the following features;

- The programmes will have an Indian perspective
- Programmes should have a blending of different formats to make them interesting, though some may require a "pure" format.
- Use of animation and/or computer graphics will be strongly recommended.
- Make the programmes participatory and interactive.



## 2 THE PARTNERS... (DOS & DST)

### » Development and Educational Communication Unit (DECU), Ahmedabad

DECU in all its incarnations has been engaged in the activity of using television as a medium of communication for development and education for almost 30 years.

- The journey began with the epoch making Satellite Instructional Television Experiment (SITE) – “the biggest techno-social experiment in the world” in 1975. The Kheda Communication Project was a long journey into local, rural broadcasting.
- Training and Development Communication Channel (TDCC) – now with over 2000 terminals spread over practically all states in the country - was started in 1994. It is extensively used by different state governments, NGOs, agencies for providing training to development functionaries like health workers, school teachers, agriculturists, panchayati raj representatives etc. The significance of TDCC lies in the fact that we moved from a one way broadcasting to a two way interactive communication.
- The Jhabua Development Communication Project (JDCP) was initiated in 1996 is one such example. Jhabua is one of the most backward tribal districts of the country. Initially 150 Gram Panchayats were selected and Direct Reception Sets were installed and it was for the first time that a large number of tribal population was exposed to meaningful, useful, development communication. After having run programmes for four years it is now been handed over to Madhya Pradesh State Government thus initiating the process of handing over and empowering the users.
- JDCP and TDCC have been pilot projects for Gramsat. It is now being made operational in other states like

#### Partners

- \* Development and Educational Communication Unit (DECU)/ ISRO, Ahmedabad
- \* Vigyan Prasar/DST, New Delhi

*Development and Educational Communication Unit (DECU), Indian Space Research Organisation (ISRO) at Ahmedabad and Vigyan Prasar, Department of Science and Technology (DST), New Delhi have jointly initiated the process of launching the Science Channel on the satellite, “EduSat” that will be launched in the later part of 2004. The satellite will be operational in early 2005 and one of the channels will be dedicated to science communication.*



Orissa, Madhya Pradesh, Karnataka etc. Gramsat is a concept to take development communication to remote far flung areas of the country so that the rural public can participate in the process of development, feel involved, can be empowered.

- DECU is now involved in the planning and preparation for EduSat a satellite dedicated to education and is likely to be operational in 2005.
- DECU has not only done significant work in the area of development communication but has also successfully ventured into facilitating and providing other technologies like Telemedicine to the far flung areas like a village in Tripura, couple of backward districts in Karnataka and have linked distant places like Andaman and Nicobar, Leh, Lakshadweep etc.

» **Vigyan Prasar/Department of Science and Technology (DST), New Delhi**

Vigyan Prasar, established in 1989 is an autonomous organisation within Department of Science and Technology (DST), which supports science communication and popularization in the country. The organisation explores the various media of print, radio and television along with traditional medium to spread the message of rational thinking and scientific pursuits.

- Under the Vigyan Prasar's publication programmes, many titles ranging from biographies to Do-It-Yourself have been brought out. Till now VP has published about 110 titles in Hindi, English and other Indian languages. Publication of "Dream – 2047", VP's monthly bilingual (Hindi and English) Newsletter is circulated free of cost to high schools, colleges in the country.
- Vigyan Prasar Network of Science Clubs (VIPNET) membership stands at 4500 with continual effort of establishing science clubs in different parts of the



Participants at Ahmedabad Workshop



country through localised workshops. VP publishes activity books for the members of VIPNET so as to familiarise them with the scientific method, scientific phenomena and their immediate environment. The WorldSpace Satellite Radio network is being utilised to strengthen VIPNET science clubs.

- Vigyan Prasar Information Service (VIPRIS) maintains and updates the VP Home Page on the Internet, which is one of the most comprehensive sites on science popularisation on the Internet.
- VP has produced many audio-video programmes on various issues of science. Currently, the organisation is in the process of converting all its existing software into CDs for easy accessibility and the needs of the new generation.
- Through amateur radio, lectures, demonstrations, workshops and seminars, Vigyan Prasar is popularising science and technology.

“The Vigyan Rail Project” is an ambitious undertaking of VP along with the National Council of Science Museum and active participation of the Ministry of Railways. The objective of the project is to organise a train with exhibits, activities depicting India’s achievements in various fields of science and technology. The train is scheduled to move throughout the country for about 8 to 12 months.

### **Friends of Science Channel**

Many Non Governmental Organisations, Media Houses, Scientific Institutes (GOs & NGOs) have been involved either in the organisation of workshops at Mumbai, Kolkata, Bangalore, Guwahati and Ahmedabad. Besides or contributed their expertise towards the conceptualisation of the Science Channel.

#### Friends of Science Channel

- ▶▶ Comet Media Foundation, *Mumbai*
- ▶▶ Centre for Environment Education (CEE),  
*Ahmedabad*
- ▶▶ Vikram A Sarabhai  
Community Science Centre
- ▶▶ Satyendra Nath Bose National Centre for  
Basic Sciences, *Kolkata*
- ▶▶ A network comprising of 200 different  
organisations.



Arrangements on for the Programme  
Preview at Ahmedabad Workshop



Session in progress  
at Guwahati Workshop



## » **Comet Media Foundation, Mumbai**

**CMF** is a voluntary organisation working in the area of educational communication since 1985. It produces materials including videos on health, education, environment, gender issues and the history of science.

*The Foundation organized the Mumbai, Kolkata and Bangalore Workshops on behalf of DECU and DST.*

## » **Centre for Environment Education (CEE)**

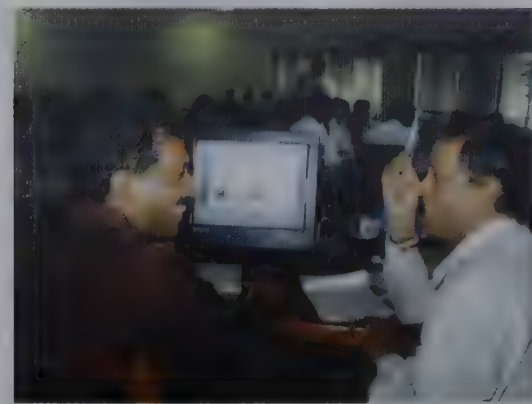
**CEE** in Ahmedabad develops locale specific environment education programmes and materials round the year. It also organises workshops on environment education and awareness and provides information to the various professionals involved in the field of education, communication and development related activities across the country through its print and video publications.

*CEE-Ahmedabad has been involved in the process of revisiting the SITE science briefs, generation of Science Brief Tool Kits and brief writing on the subject of environment. CEE-South co-hosted the Bangalore Workshop and CEE-NE hosted the Guwahati Workshop.*

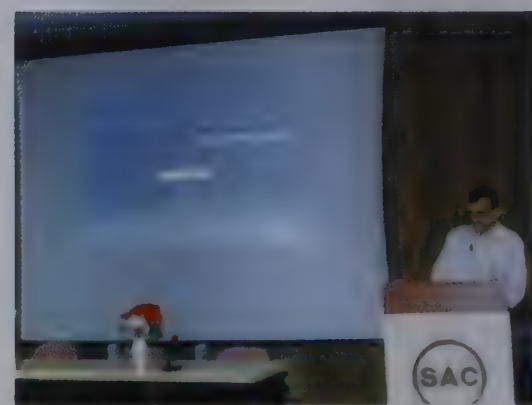
## » **Vikram A Sarabhai Community Science Centre (VASCSC), Ahmedabad**

**VASCSC** was established in late sixties as a facility where people concerned about quality science education came together to try out new ideas and methods for teaching science. Its mandate is to stimulate interest, encourage and expose the principles of science and scientific method in the community and also to improve and innovate various areas of science education.

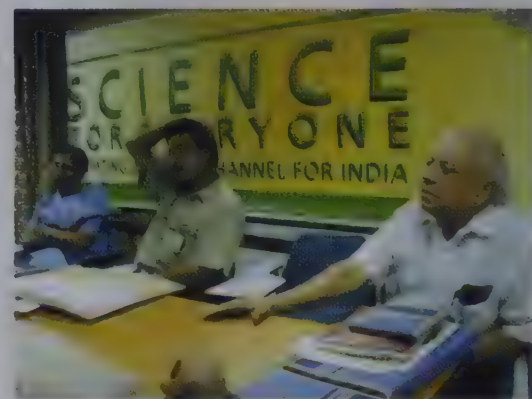
*The centre has been involved in the process of re-visiting the SITE Science Programme Briefs and also submitting additional new briefs in the said area. They are also formulating a Tool Kit meant for the programme makers.*



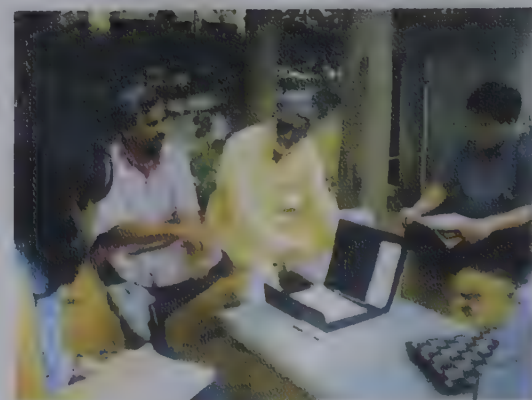
Preparing the presentations  
at Guwahati Workshop



Presenting the journey of Science  
Channel at Ahmedabad Workshop



Panellists at Kolkata Workshop



Group Work in Progress  
at Bangalore Workshop



» **Satyendra Nath Bose National Centre for Basic Sciences, Kolkata**

Established in 1986 as an autonomous research institution by DST, the Centre is unique in exposing scholars to the cutting edge of research in basic sciences through national and international conferences and active visitors' programme evolved around a core faculty with multidisciplinary interests.

*The Institute co-hosted the workshop at Kolkata.*

*In addition, a network comprising of 200 different organisations like universities, scientific institutes, NGOs, science clubs, etc. completes the circle of friends.*



## Challenges in Education

Education is the backbone of national development and is widely accepted as an instrument of social change. India faces challenges of education on several fronts, namely, adult and continuing education, school education, higher and professional education.

- » There is a dire need to upgrade existing institutions and expand the network rapidly. Education needs to be holistic and cover all dimensions of life viz. physical, mental, intellectual and spiritual.
- » Incultation of scientific temper is one of the cherished dreams of the nation, which can be achieved only if woven into the education system. Right from the primary standards through the higher standards, students lack the exposure to rational thinking, reasoning and behaviour. Our educational system needs to be modified accordingly along with freshness of ideas.

## Response to the Challenge

- » Response to such a complicated challenge must be qualitatively different. It does not require a great genius to appreciate that to achieve such a massive task with so much complexity simultaneously with quality, the known methods and conventional response will be far too inadequate. There has to be a paradigm shift in conceptualization of human learning and to adapt a whole range of new generation pedagogy to educate millions with quality.
- » It will be necessary to resort to multiplicity of modes of education delivery, namely, formal classrooms, non-formal and alternative schooling (schooling in generic

### EduSat Objectives

- \* *To provide support to education through low-cost ground segments.*
- \* *To reach the unreached in every nook and corner of India.*

**EduSat** is conceived as an interactive system for formal education, but will definitely be able to cater to the requirements of the envisaged science channel for non-formal education.



sense), open and distance learning, ICT enabled learning, etc. Science education can best be achieved through examples from life experiences, demonstrations, exposure trips, exhibits, models, hands-on-training.

» There is a convincing body of research literature, both Indian and international, to indicate the conventional one-way communication, be it in classrooms or through mass media, will continue to give the same results as it has been giving! Quality in education will demand on new generation pedagogy, primarily interactive. Satellite based ICT enabled education is an effective response to this challenge of quality.

» There are wide range of ICT enabled educational delivery modes. These include:

- One way TV broadcast,
- Interactive TV via phone in,
- Interactive TV with computer support through e-mail,
- Video conferencing,
- Computer conferencing,
- Telephone conferencing,
- Web-based instruction, etc.

EduSat is conceived as an interactive system for formal education, but will definitely be able to cater to the requirements of the envisaged science channel for non-formal education. The range of technologies utilised in this satellite will be extremely helpful to introduce the element of interactivity. The up link will be through low cost studios with various other interactive modes like multimedia, voice mail and satellite talk back facilities, which will be provided through the satellite.

EduSat is designed to cover the entire country in one big national beam and several small regional beams. This type of framework will facilitate the universities and colleges to set up links to serve their clients. The EduSat as conceived will be much more powerful in terms of dB watts than the INSAT, which will serve to reduce the size of both up link and receive terminals.



EduSat Spacecraft



A talk on "EduSat"  
at Bangalore Workshop



## Space and Ground Segments

» There are two segments in a satellite-based educational programme. These are space segment and ground segment. The requirement of space segment can be based on a careful need assessment.

### » Features

- ❑ Ku Band Operation
- ❑ Small Size Low Cost Ground Hardware
  - Decentralised Teaching Centre
  - Multiple and Simultaneous Networks
- ❑ High Bandwidth Two Way Interactivity
  - 384 KBPS from Classroom
- ❑ Multimedia Multicasting
- ❑ Constant Rate Throughput
- ❑ Adopting an open standard approach for ease of expansion

Access to new technologies through a well-thought ground segment can be configured. These configurations can be adopted and established in schools, colleges and other institutions.

- ❑ 5 Hubs – One for each Regional Beam
- ❑ Each user group will have a sub-hub for PC connectivity and interaction with the receive terminals
- ❑ Feasible Ground Configurations
  - 0.7 Meter Ku Band Antenna, TV Receive only Terminals
  - 1.2 Meter Ku Band Antenna, Interactive Terminals (384 KBPS)
  - 1.8 Meter Ku Band Antenna, Interactive Terminal (2 MBPS)

Enabling 2 Way

Satellite Broadband

Communication



A true Satellite  
Access Technology  
For  
Tele-education



## 4 THE JOURNEY OF SCIENCE CHANNEL...

(One step at a time)

Through out the passage, the Science Channel Task Teams at DECU/ISRO and Vigyan Prasar/DST have had dialogues and partnership with all the stakeholders – the NGOs, Government organisations, individual scientists, media planners, television producers, social scientists and researchers, policy and decision makers and most importantly the 'common' citizen of the nation and the audience.

### » **Brainstorming Meet** (Ahmedabad, 2001)

The Ahmedabad meet was the pioneering step for directing Science Channel. To further the idea and explore the feasibility of a science based educational channel in the country a brainstorming meeting was held in Ahmedabad in 2001. Besides the scientists of SAC/ISRO and the officials of DECU, the meeting was attended by eminent scientists like;

- Prof. E V Chitnis,
- Director, Consortium for Educational Communication, UGC, (New Delhi),
- Director, National Council of Science & Technology Communication (NCSTC) Department of Science and Technology, (New Delhi),
- Director, Vikram A Sarabhai Community Science Centre, (Ahmedabad)
- Director, Science and Technology for Women and Children Foundation (SATWAC, Ahmedabad).

In this brainstorming meeting the participants prepared the background of the Science Channel.

*The journey of the Science Channel began with Development and Educational Communication Unit (DECU) proposing the concept of starting a Science Channel taking into consideration the need and space for such a niche channel.*

#### **The journey of Science Channel**

- ✓ **Brainstorming Meet at Ahmedabad, 2001**
- ✓ **New Delhi Meet, 2002**
- ✓ **Regional Workshops, 2003**
- ✓ **Vision Statement of the Channel**
- ✓ **Pilot Programme Production**
- ✓ **Development of Programme Briefs for Children**
- ✓ **Name and Logo of the Channel**



## »» **New Delhi Meet**, (November 2002)

A meeting in collaboration with Vigyan Prasar, DST was organised and Chaired by Secretary, DST in New Delhi in November 2002, where officials from the government sector and scientists participated. A vision statement for the channel was drafted after the Delhi meet. Inputs from different regional workshops were later finalised in November 2003 after the culminating workshop at Ahmedabad. *(New Delhi Meet's Recommendations in the Annexes-A Page No. I)*

## »» **Regional Workshops**, (January – September, 2003)

The regional workshops were conducted in the West, East, South and North- East regions of the country.

- The series of Workshops in different regions of the country started with the **Mumbai workshop** (21<sup>st</sup> – 22<sup>nd</sup> January 2003). The workshop was conducted by Comet Media Foundation, Mumbai on behalf of DECU.
- **Kolkata Workshop** (13<sup>th</sup> – 14<sup>th</sup> June, 2003) was organized jointly by Comet Media Foundation, Mumbai and Satyendra Nath Bose National Centre for Basic Sciences, Kolkata on behalf of DECU.
- While the **Bangalore Workshop** (4<sup>th</sup> – 5<sup>th</sup> July, 2003) was jointly organised by Comet Media Foundation, Mumbai and Centre for Environment Education, South (Bangalore) on behalf of DECU.
- **Guwahati Workshop** (28<sup>th</sup> – 29<sup>th</sup> August, 2003) was organised by Centre for Environment Education, North-east on behalf of DECU and Vigyan Prasar/DST.



The banner that travelled everywhere



"The Organisers"



- The last in this series of workshops the **Ahmedabad Intensive Meet** was held on September 11 – 12, 2003. The Ahmedabad Meet was planned as the grand finale to all the workshops.

*(More details Refer Chapter 5, Page No. 20 )*



DECU Team at Ahmedabad Workshop

## » The Vision Statement of the Science Channel

### PREAMBLE

The vision of a Science Channel for India comes to us from two streams of inspiration, one historical and the other contemporary. The contributions of Indians to world knowledge in the fields of mathematics, astronomy and medicine in ancient times are well known. This strength continued through history, and as the world learnt from India through trade and cultural exchanges, India too learnt from the rich and varied experiences of other countries. Science as we know it today has emerged from the contributions of knowledge producers from a range of sources: India, China, the Arab world, Europe and Africa have all contributed to the development of science across the past five thousand years.

During the freedom struggle, all sections of the Indian society became fired with the vision of a dynamic and egalitarian democracy. The project of the freedom movement was essentially the creation of a self-reliant nation built on a foundation of modern science, engineering and technology (SETs), deeply rooted in its own cultural milieu. This vision required the development of certain socio-cultural strengths based on education and knowledge.

After Independence, efforts were made to institutionalise the pursuit of science. In 1958, the Government of India passed a Parliamentary resolution enunciating India's Science Policy. The objectives were to secure the benefits of scientific knowledge and its applications for the people of India. The policy encouraged initiatives for the acquisition and dissemination of existing knowledge, as well as discovery of



*The first draft of the Vision Statement was formulated jointly by Vigyan Prasar and DECU. Thereafter the continuous inputs from the various workshops at Mumbai, Kolkata, Bangalore and Guwahati consolidated the vision for the channel. At the Ahmedabad Meet this draft was formally finalised.*



fresh knowledge. Steps were taken for initiating and sustaining the cultivation of science with the setting up of major academies of science, engineering and technology providing higher education, application and research facilities.

Throughout the five decades after Independence, various regimes encouraged promotion of SETs irrespective of their ideological inclinations. Across the political spectrum there was unanimity about the vision of science as the key to development. However, despite the best of intentions, the less privileged sections of the people were not involved in this project of modernity.

This inadequacy was critiqued by both governmental and voluntary initiatives, and in recent years there has been emphasis on the active involvement and participation of the people in planning and development. The government's Science and Technology Policy Statement 2003 lays considerable emphasis on communication of science. It states: "There is growing need to enhance public awareness of the importance of science and technology in everyday life, and the directions where science and technology is taking us. People must be able to consider the implications of emerging options in these areas which impinge directly upon their lives, including the ethical, moral, legal, social and economic aspects."

The initiation of the Science Channel is an important step in that context, for it aims to make knowledge on SETs accessible to all sections of people, and to empower people to take initiatives based on this knowledge. To accelerate this process, Indian Space Research Organisation (ISRO) is launching a satellite for education called EduSat, in which a channel or perhaps eventually a group of channels, would be dedicated exclusively to disseminating science information.

## »» Pilot Programme Production

Proposals for the pilot programme production for science channel were invited with the objective of screening these

## Science & Technology

### Policy, 2003

*"There is growing need to enhance public awareness of the importance of science and technology in everyday life, and the directions where science and technology is taking us. People must be able to consider the implications of emerging options in these areas which impinge directly upon their lives, including the ethical, moral, legal, social and economic aspects."*



programmes in the Ahmedabad Intensive Meet on September 11 and 12, 2003 and showing these programmes to Secretary DST and Secretary DOS/Chairman, ISRO as flagship programmes for the Science Channel.

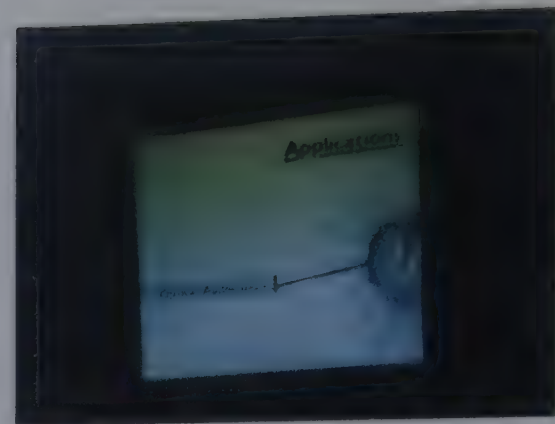
**Ek Jhalak** produced by Comet Media Foundation, Mumbai, was presented to the participants of the Intensive Meet on Science Channel on September 11-12, 2003 in Ahmedabad. This 30 minutes programme is a glimpse into a typical half-hour of what the Science Channel could look like on some day in 2005 when it is on air; with programme on adolescents interspersed with channel ID, public interest social advertisements, promos of other programmes and so on.

**Fascinating Ferro Fluids** produced by Image Films, Ahmedabad was also presented to the participants of the Intensive Meet on Science Channel on September 11-12, 2003 in Ahmedabad. This 4 minutes short-duration programme explains the wonder fluid containing ferro magnetic material having a wide range of industrial and pharmaceutical applications.

**Space to Life** produced by Pulse Media, New Delhi, highlights how science and technology can help address the basic needs of human kinds and makes and explains the different applications of space technology through the Applications of Telemedicine.

## » Development of Science Programme Briefs for Children

In the early 70's, DECU in partnership with Vikram A Sarabhai Community Science Centre (VASCSC) and few other institutions had developed around 150 communication briefs for science education TV programmes for children and broadcast during SITE. These science programmes produced during SITE are a valuable bank, which can be drawn upon for the Science Channel initiatives. Hence it was essential to re-visit the contents of all these briefs so as to examine their relevance to current times and update the briefs with latest information. Scientists, media people, educationalists, teachers and other were again invited to examine the briefs. VASCSC along with CEE on behalf of DECU took up this task of "revisiting" all the 150 briefs. Through a series of



Still from "Fascinating Ferro Fluid" - being previewed at Ahmedabad Workshop



workshops, the 150 briefs were analyzed and presented in 123 briefs with additional topics for 58 new briefs. These communication briefs are now ready to be taken up for programme production.

## » Name and Logo for the Channel : Involving the Younger Generation

A competition to generate ideas and concepts for the Name and Logo of the channel was held for the undergraduate students of fine arts, communication and design courses from few selected colleges/schools of the country. The following criteria were kept for name and logo competition:

- ❖ The name for the proposed channel would be in English and/or Hindi.
- ❖ Should arouse curiosity, have an “Indian-ness” attached to it.
- ❖ As far as possible should not directly indicate science or education.

The concept of logo design will depict the basic elements of science, its manifestation in universe and relevance to our day to day life and environment, in which we all live in.

A panel of eminent personalities in the field constituted by DECU evaluated three best entries in two different categories of name and logo.

The Science Channel Task Team at DECU suggested the following names for the Channel;

- ❖ Vyom,
- ❖ Anant,
- ❖ Avni
- ❖ Jigyasa
- ❖ The Science Channel

### Name & Logo for Science Channel

Of the total 20 schools invited, six schools participated sending in all 49 entries. The six participating schools are;

- » IIT, Guwahati
- » IIT, Mumbai
- » Rai University, New Delhi
- » M S University, Baroda
- » C N Vidyalaya, Ahmedabad
- » Government College of Arts & Craft, Kolkata

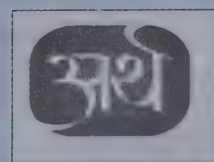
On December 19, 2003, the winners received the award from Mr. Vikas Satawlekar, Chairman of the Evaluation Committee.

#### The winning names are

1. 'Tatva'  
by Shivam Goyal, IIT Guwahati
2. 'Anant'  
by Rakesh Bhalshanker, MSU Baroda
3. 'Arth'  
by Deepal Ganatra, MSU Baroda

#### The winning logos are

1. No prize awarded
2. 'Anant'  
by Rakesh Bhalshanker, MSU Baroda
3. 'Tatva'



Shivam Goyal, Rakesh Bhalshanker,  
Deepal Ganatra (L - R)



## 5 REGIONAL WORKSHOPS...

(Recommendations & Viewer's Perspective Studies)

The regional workshops that were conducted in the West, East, South and North-East regions of the country were conducted with the objectives to:

1. Identifying the topics and issues concerning that region and the country as a whole.
2. Create an environment and awareness in these regions about science communication through Science Channel.
3. Identify individuals/agencies for production of new programmes besides those who have science programmes available with them.
4. Identifying personnel for research and evaluation.
5. Identifying broad areas and subjects for programmes on the Channel.
6. Discuss action items/plans for realisation of Channel.

Media persons having an aptitude for science communication, scientists with a bent towards science popularization and NGOs having a base with urban/rural audience at the same time interested in science communication were invited to the workshop. Besides, cable operators were also invited to seek an insight in to the working of the cable network. Government officials were also invited to participate in the workshops. These workshops are planned as a series of consultations involving people from different areas like, the Television media, print media etc, Institutions, scientists and NGOs involved in science communication and development, Technologists in the area of software development and IT related industry. It is important to develop link with these areas at the very beginning itself. So that the talents and resources of these varied workers could be drawn to enhance the quality of the channel and it will form a solid base for the channel. It is being emphasized here through these workshops that participation is one of the main themes of the science channel.

**Mumbai**  
**January 21-22, 2003**

**Kolkata**  
**June 13-14, 2003**

**Bangalore**  
**July 4-5, 2003**

**Guwahati**  
**August 28-29, 2003**

**Ahmedabad**  
**September 11-12, 2003**

### **Partners in Workshops**

DECU involved a variety of partners. The Mumbai Workshop was organised by Comet Media Foundation, Mumbai. The Kolkata Workshop was organised jointly by Comet Media Foundation, Mumbai and S N Bose Institute of Sciences, Kolkata. The Bangalore Workshop was organised by Centre for Environment Education, South. The North-east region workshop was organised in Guwahati in collaboration with Centre for Environment Education, North-east. The Ahmedabad Meet was organised by DECU.



## Themes of Workshops

Mumbai	Kolkata	Bangalore	Guwahati	Ahmedabad
Content & Approach	Content & Approach	Structure & Organisation	Content & Approach	Vision Statement
Software Generation Strategies	Software Generation Strategies	ICTs and/or/in Development	Making Channel Participatory, Responsive and Interactive	Management Structure
Receiving end Management	Channel Management Structures	Interactive Programming for all sided public discourse	Management Structure and Accessing the Channel	Self Sufficiency for the Channel
Multiple Media Strategy	Interactivity and Feedback: The Role of ICTs	Use and Misuse of Science		Logo and Name of the Channel
Self-sufficiency of the Channel	Receiving End Management	Sample Programme Presentation		Sample Programme Presentation
		Water: Content and Approach/ Issue for Programme Production		Programme Distribution Strategies
		Health: Content and Approach/ Issue for Programme Production		Towards Realisation of the Channel

## OVERALL WORKSHOP RECOMMENDATIONS

### Profile of the Channel

- » 'Science for Everyone and Science is Everywhere' will be the guiding principle for Science Channel.
- » Science Channel should project at the interest of everyone - dealing with the advancement of Science and technology and its usage to the society around.
- » Should be a channel with purpose and commitment and catering to a varied audience encompassing urban, semi-urban, rural, children, adolescents, women and men.



Presentations of Group Work at Kolkata Workshop





**Programme  
themes should be  
woven around:**

- » Should adopt the 'from the grassroots' character by involving local networks and resources to get immediate and consistent inputs for the subjects of concern or importance.
- » This channel should have present science for it to be healthily accepted by the masses be it urban or rural.
- » Programmes should not conceal the failures and negative impacts of science and technology.
- » Look of the programmes will have to be "smart", sleek and consistent in order to develop its own identity and language.
- » The name of the Channel should be such that it will attract the audience.
- » The Channel should offer high quality, educative entertaining programmes that would enable and empower people to understand and address issues of their concern through a participatory process.
- » The programmes should promote the use of scientific method and inculcate scientific temper.
- » The Channel should have an Indian Identity.
- » The Channel should incorporate Professionalism as well give rise to Creativity.
- » It should address people's concerns.
- » The Channel should be independent of the government control and be autonomous.
- » The Channel should be flexible and create an atmosphere of 'Science for everyone'.
- » It should be responsive to needs of people not targets.

Science for life,  
Science as means of production  
(innovation chain),  
Science and ownership of  
scientific knowledge,  
Science as a world view,  
Science as systemisation of  
knowledge,  
Science as history of science,  
Science as the cognition of  
necessity,  
Pure Sciences like physics,  
chemistry, etc.

**Software Generation Strategies**

- » Network of several channels each with the regional characters should be established to enable exchange of materials and stories.



Group Work in progress at Kolkata  
Workshop



- »» The channel should develop a virtual archive with detailed reference to stock materials.
- »» All the potential producers should follow the guidelines provided by the Channel as quality-control is a must.
- »» Independent producers should be given preference over the in-house producers and the programmes should be acquired from within India as well as International broadcasting organisations.
- »» The programmes should be divided into meaningful, practicable units and accordingly proposals should be sought from the producers for different strands of programmes that are agreed to.
- »» A panel of filmmakers/media professionals should review the programmes periodically, where producers/programme makers can also participate. The producers must be updated with the quality of audience response and the quality sought from the particular programme created.
- »» The Channel should have the copyright to all the programmes produced and commissioned. But for the programmes produced by individuals/agencies, the Channel should pay them royalty as per the established rules.
- »» To make the Channel viewer-friendly and to create a loyal viewership, adequate provision for producing programmes on request, and repeat telecast of popular programmes to reach out to wider cross sections of society should be kept.
- »» It should begin with flagship programmes in the prime-time slot and later on according to the audience interest the time slots would be developed.

### **Content and Approach**

- »» Keeping in mind the principle of bringing science home and making it available to everyone, it is necessary to fabricate the programmes as inter-disciplinary allowing them to move over from narrow expository fields to actually living real-life situation-based applications.

#### Various Resources for information

- ✓ National Institutes
- ✓ Independent/Private agencies
- ✓ Local facilitators for local knowledge.
- ✓ Policy advocates/Consultants
- ✓ NGOs
- ✓ Religious communities
- ✓ Scientists/Researchers
- ✓ Internet/Journals/Books Publications
- ✓ Libraries/Records/Old Documentaries/Movies/Documentaries



DECU Team at Guwahati Workshop



- » The content of the programmes should be interesting but the element of entertainment should be inserted subtly in the programmes. The curriculum-based programmes should not be merely repetition of textbook content but should enrich the syllabus.
- » The content and formats should have compatibility, which can grip the audience as well as appropriately treat the subject or topic.
- » All the programmes should be participative and interactive using ICT and multimedia. The recommendations from interactions should be incorporated in the programmes.
- » The programmes should address contemporary concerns by linking with similar trends of the past.
- » The communities should not be treated as passive recipients but also as owners/producers of content/communication processes.
- » Programmes should feature women scientists, engineers.
- » Thorough Audience and Market research should be done before the launch of Channel.
- » Publicity of the Channel should be through:
  - Word-of-mouth
  - Advertisements through mass media like radio (FM), newspapers, television and street hoardings.
  - Advertisements on several popular websites
  - Advertisement of Channels' website in newspapers
  - Traditional media like Bhavai, folk dances, folk songs in rural areas
  - Pilot programmes in the village haats
  - Quiz shows and Science discussions in the schools and science museums.
  - Arranging everyday competition of awarding 10 winners for the intriguing question asked in newspaper.
  - Science Fairs wherein various NGOs and Science clubs should also participate.
  - Conducting talent hunts for young scientists, enterprising farmers, resourceful housewives etc.



Group Work in progress at  
Kolkata Workshop

#### Formats

- ◇ Feedback
- ◇ Personal narratives
- ◇ Reality shows'
- ◇ Docu drama
- ◇ School quiz
- ◇ Spots (Did you know)?
- ◇ Simulation
- ◇ On air debates
- ◇ Interviews
- ◇ Animation
- ◇ Community films/videos
- ◇ Studio discussions
- ◇ Success stories
- ◇ Life cycle stories
- ◇ Documentary



## Subjects / Topics

History of science  
Medical Science  
Health & Diseases  
Livelihood Options  
Myth & Facts  
Sports

Social sciences  
Meteorology  
Women Issues  
Tribal life  
Animal Husbandry  
Tourism

Pure Sciences  
Food & Nutrition  
Environment  
Inventions  
Art & Music  
Pleasures/Hobbies

Water resource management  
Alternative energy resources  
Local/indigenous techniques  
Agriculture and allied activities  
Visits to science museums, laboratories  
Intellectual property rights  
Ethical issues like cloning, steroids in sports  
Biographies of eminent scientists and technologists  
Futuristic Science and Inventions

## Channel Management

- » The structure should be framed so as to incorporate the strengths of both government and private sector. The Channel should have a system with a strong central authority and supported by a consultative structure of all the levels i.e. national, regional and local levels whereas the production of the programmes should be decentralized emphasizing the needs of the local people and their stories.
- » Consortium/Autonomous body/Society as a central body will identify and co-ordinate creative teams and regional and local agencies as well as provide training inputs. The creative team will look after channel research, monitoring and evaluation and regional and local agencies will be involved in obtaining/generating programmes.
- » The Channel should ensure transparency and participation in its management.
- » The structure eventually should allow region specific broadcasting in regional languages.
- » The system should allow periodic review and thus should be self-corrective.
- » The Science Channel should be able to absorb the changes occurring due to convergence of technologies viz. webcasting and Video On Demand.



Discussions of the Management Group in progress at Bangalore Workshop

### **Probable resources for revenue generation**

*Interest on corpus fund*  
*Sponsorship of programmes by government departments*  
*Selling programmes to other channels and museums*  
*Donations*  
*Corporate sponsorship of programmes*  
*Advertisements*  
*Merchandising - CD-ROMs, audio-cassettes and experiment kits.*



## **Funding and Self-sufficiency**

- »» The initial funding would be from ISRO and DST but eventually the channel would have to look out for funds and other revenue generation sources from the government and non-government source as the channel consolidates.
- »» Forming a network of sources such as government, NGOs, Corporates, International donor agencies, media organisations and public service organisations for funds will be significant.
- »» The expected cost of the Channel has been calculated to amount to 1.5 crores per annum.
- »» A Business Plan should be developed keeping in view the Indian market. Strategies for marketing the Channel, programme distribution and revenue generation need to be devised. At this stage, services of the professionals in these areas should be roped in.
- »» Promotion of research and development activities will be pivotal in achieving self-sufficiency.



Participants at  
Ahmedabad Workshop

## **Interactivity**

- »» The Channel should be able to blur the line between the sender and receiver, producer and consumer.
- »» The Channel should get the feedback from viewers about the content, format, subject etc of the programmes and should clarify their queries utilising the potential of "Edusat"
- »» Giving viewers the "Authorship" of the content by building a national content consortium.
- »» Technology support should be available for telecasting programmes and interactions simultaneously in several languages.
- »» Awards and prizes like CD-ROMs, custom-made T-shirts and caps depicting the Channel logo, visit to Nature Camps, important laboratories and industries in the country etc. would also add interactivity of the viewers with the Channel.



Panellist at Ahmedabad Workshop



## **Programme Distribution Strategies and Receiving-end Management**

- »» Programme distribution should be a decentralised approach involving small units at local level.
- »» The ways and means for handling the cable market scenario and possibility of DTH are significant elements of distribution strategies.
- »» The distribution strategy should be able to target at both rural and urban communities and within urban should enable to focus on urban poor, middle and elite class. This can be done in phases but eventually all groups should be represented.
- »» The proposed Channel should be free to air.
- »» It should also have the Prime Band i.e. everyone is able to tune-in, even the old TV sets having about 12 channels.
- »» The Channel should make use of the existing cable network as well as establish other networks. The Channel should look forward in setting up DRS, educational institutions and science clubs in rural and urban areas involving government agencies and NGOs.
- »» Programmes and information may also be made available in the non broadcast mode.
- »» The telecast time should be segmented keeping in mind the diverse groups of audiences.
- »» The Channel should develop a continuous feedback system by forming audience monitoring and research cells for pre, during and post telecast research.

## **Website**

Portal for Science Channel is strongly recommended to enable the viewers to find out “what’s new” and other relevant information on programme schedule etc. Video clippings of important programmes already telecast as well as glimpses of programmes to come should be available in this portal. It should support the following activities:

### Multiple Media

Telephones with toll-free numbers  
Audio video conference  
Internet - through Website, via E-mails and Chat  
Mobile devices and Video phone

### Non-broadcast material

CD-ROMS  
Postal services through postcards  
Low-cost booklets, science kits, audio cassettes



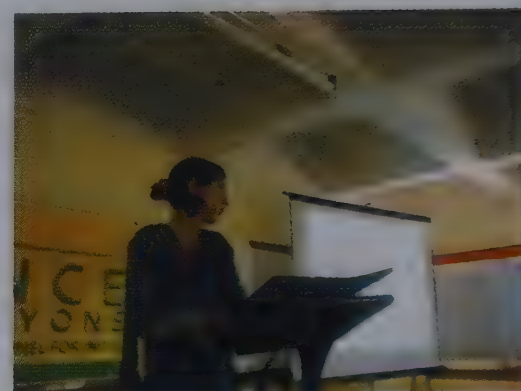
Discussions of the Water Group - at Bangalore Workshop



- Discussion forums
- Chats on focused topics
- Demand driven programming and can even hold extensions of each programme
- Career guidance and counselling (through chats/discussion forums)
- Web based tests (testing outcomes after watching programmes)
- Reception Reports

### **THE VIEWERS' PERSPECTIVES' STUDIES - An Abstract**

Studies were conducted as a series of rapid appraisals to understand the viewers' choices in terms of perceptions on science, perceptions of television as a medium of learning, television viewing habits of television viewers across sections, attitudes to various formats, themes and styles in television programming, expectations of a dedicated Science Channel and get the feel of their perspectives with reference to science programming on television. A set of questions encompassing these was prepared beforehand and administered with the target groups during these exercises. The viewers' perspectives were presented during regional workshops. Details of the studies are available in individual workshop reports. They reflect the aspirations of particular sections and need not be generalised. The findings of the study however, serve as an indicator for preparing the ground that can pitch appropriately at the audience.



Presenting viewers' studies  
at Bangalore Workshop

Study by	Location	Target Groups for FGD	Findings in Brief
Comet Media Foundation	Mumbai	School students – 8 -12 yrs., 13 -17yrs. Kendriya Vidyalaya IIT campus and Shivaji Nagar Municipal Primary School College students IIT Powai and Jhunjhunwala College offering bachelor's degrees in several disciplines Working slum youth from Govandi	<ul style="list-style-type: none"> <li>• Programmes on science providing useful and practical information watched</li> <li>• Cartoons, docu-dramas and quizzes – preferred formats.</li> <li>• Outdoor and demonstration programmes preferred than studio-based discussions.</li> <li>• A strong need felt for career guidance programmes</li> </ul>



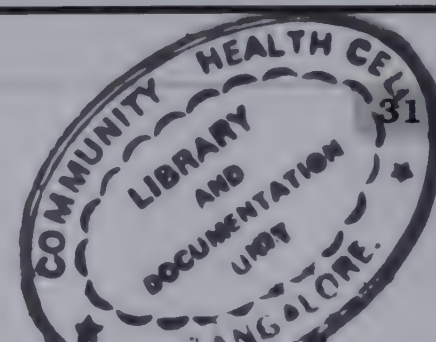
Study by	Location	Target Groups for FGD	Findings in Brief
SNDT University	Mumbai	Students from middle and upper middle class families – 8 - 12 yrs., 13 - 17 yrs., 18 - 25 yrs.	<ul style="list-style-type: none"> <li>• 8-12 years age group specifically wanted syllabus based programmes on television. Older students looked for programmes on career guidance.</li> <li>• Well-presented and crisp programmes perceived as good programmes and wanted the programmes to be informal and not overtly pedagogical.</li> <li>• Wanted the Channel's publicity campaigns to involve celebrities and experts to create a buzz about its feature and quality.</li> </ul>
Eklavya Institute	Hoshangabad District Madhya Pradesh	Male college students in Hoshangabad town Village school students from landless labour background Government school students from better off families Privately run village school students from families of small and middle farmers Affluent farmer families	<ul style="list-style-type: none"> <li>• Two villages had cable operators but only showing free to air channels - DD1, DD metro, Sab TV, Zee TV. Star Plus, Star News, FTV and Discovery were available only in Hoshangabad town.</li> <li>• Nature, stars, moon and sun were the preferred themes across the age groups and background.</li> </ul>
Homi Bhabha Centre for Science Education	Mumbai	Students 8 - 12 yrs. (low socio-economic status) 12 - 15 yrs. (middle socio-economic status) 12 - 15 yrs. (high socio-economic status) Undergraduates of biotechnology and computer sciences Young working professionals	<ul style="list-style-type: none"> <li>• Most across the groups preferred satellite channels to DD</li> <li>• Students wished to have imaginatively designed programmes based on curriculum with interesting hosts and explanations through graphics.</li> </ul>
St. Xavier's College	Kolkata	Students of Humanities, St. Xaviers' College Group 1 – 19 yrs., family income Rs. 50,000 p.m. Group 2 – 20 - 21 yrs., family income Rs. 25,000 – 30,000 p.m.	<ul style="list-style-type: none"> <li>• Preferred visually arresting and interesting programmes using minimum of speech, simple language, which arouse curiosity and have humour.</li> <li>• Strongly for including school science in TV programmes and watching them as a school activity</li> </ul>



Study by	Location	Target Groups for FGD	Findings in Brief
Institute of Science, Technology and Development Studies	New Delhi	Students from Upper class school - Springdales School, Dhaula Kuan Lower economic stratum - Govt. Secondary School, Mangolpuri	<ul style="list-style-type: none"> <li>Students from the government school mostly viewed Hindi entertainment channels but a fair number of students watched Discovery Hindi.</li> <li>Both groups showed enthusiasm to the idea of science through television and felt that this mode was better compared to books for increasing science awareness.</li> <li>Desired programme related to curriculum particularly of science, social science and literature and favoured drama and documentary formats.</li> </ul>
Community Health Cell	Koduru, Andhra Pradesh	<p>Women's group of Koduru - 25 -30 yrs. (not employed and middle class)</p> <p>School children - 12 -16 yrs. College students - 16 - 21 yrs. Unemployed youth - 21 -26 yrs. Home makers - 30+ - 40 yrs. Older age groups - 50 - 60+ yrs. Family members of remote villages (Nagavaram and Gaddala Reva Palle) near Koduru</p>	<ul style="list-style-type: none"> <li>Desired for youthful, active and popular anchors for programmes</li> <li>The government school students not at all exposed to Internet as against premier school students reporting visit to 41 sites. Search engines popular among them.</li> </ul>
Karnataka Rajya Vigyan Parishad	Rural Karnataka	Teachers and students	<ul style="list-style-type: none"> <li>Udaya, National Geographic and DD in common</li> <li>Both groups preferred programmes in local language.</li> <li>Teachers suggested formats like discussion based, documentary and drama while students favoured Antakshari, question-answer, demonstration, drama, quiz, documentary.</li> </ul>



Study by	Location	Target Groups for FGD	Findings in Brief
Comet Media Foundation	Bangalore	Working women from low to middle income group aged 25 - 30 yrs.	<ul style="list-style-type: none"> <li>• Would like to watch health related programmes</li> <li>• Not comfortable with the idea of phone-in or web cam programmes</li> <li>• Specifically watched Udaya TV serials dealing with issues of violence and ill-treatment in the family</li> </ul>
Comet Media Foundation	Bangalore	Students Al-Ameen College -1 group (30 - 35) Mount Carmel College - 2 groups St. Joseph's College - 2 groups	<ul style="list-style-type: none"> <li>• Majority of the students watch films, comedy serials, music and sports</li> <li>• Wanted science fiction programmes, programmes with narrative structure based on real life story, public debates/ discussion, interviews, game shows, reality programming, documentaries, quiz, animation, curriculum related programmes packaged attractively.</li> </ul>
Centre for Environment Education, NE	Assam, Arunachal Pradesh, Meghalaya, Mizoram	A cross section of farmers, professionals, students, tribal communities, unemployed and illiterates About 50 respondents from each state	<ul style="list-style-type: none"> <li>• Cable television preferred in urban areas. The rural community has access only to DD</li> <li>• Serials, news based programmes and film are the favourites.</li> <li>• Would watch Science Channel for programmes on science and technology, agriculture, environment, health, nature and natural phenomena etc. 30-60 minutes duration for each recommended.</li> <li>• Preferred formats- animation, story telling, puppetry and travel magazine.</li> </ul>

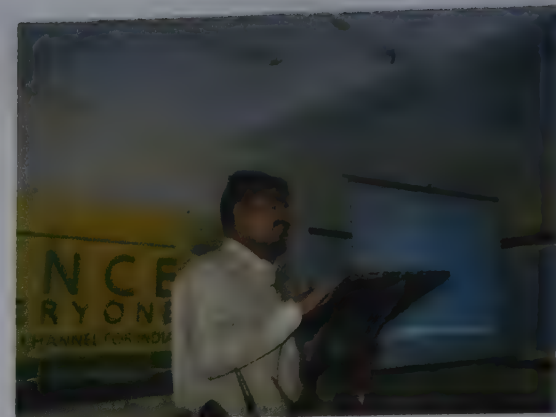


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### Overall Recommendations from Studies

1. The Channel should be able to stimulate and satisfy the sense of wonder and inquisitiveness of all the children and other people alike from varied backgrounds.
2. The Channel should aim for realisation of the special qualities and aptitudes of individuals in economically disadvantaged circumstances.
3. The programming should leave behind the formal institutional formats that science and technology usually are presented in.
4. There is a need for syllabus based participatory programmes.
5. The Channel should work to legitimise local knowledge with verifications.
6. The Channel must bear in mind the differing needs of children from varied background while developing programmes.
7. A larger national survey on preferences on Science Channel needs to be done.
8. Audiences should be familiarised with new media, especially Internet as the Channel has the potential for interactive media.
9. The Channel must consider the career guidance/counselling as an important programme.
10. The social perspective on science and sustainable development should be taken into account while designing the approach to the Channel.



Presentation on audience views  
at Bangalore Workshop

### Summing Up

During the course of the workshops, plenty of recommendations were made. These recommendations were at variance and some of them even contradictory. But all had a common thread of the need for popularising and communicating science that has relevance to common man's life and that can help the people to develop and strengthen a rational perspective.



## 6 THE PRESENT AND THE FUTURE... (The Plan towards Realisation)

### Video Programme Production

As part of the preparatory work to identify themes for the programmes and the media research has been started. It is very essential to identify the source from where the materials may be acquired and to document the material available for taking it further to the production mode. Efforts are on to add to the kitty of the existing programmes, Jigyasa - Ek Jhalak, Fascinating Fluids and Space to Life, which are;

*Programme Production &  
Distribution,*

*Management Structure,  
Business Plan,*

*Name for the Channel,*

*Science Brief Tool Kits,*

*Communication Brief Writing,*

*Science Channel Portal,*

*Technical Operating Standards for  
the Channel.*

» A two-part programme each of 20 minutes duration on biotechnology is being produced by a distinguished producer based in Ahmedabad. The programmes will explain the concept of biotechnology and the recent developments in the Indian context. The two parts will impart basic introduction to the subject, as frontier science in various application fields, development and institutionalisation in India, the future of the technology and the humankind, various institutions of learning, ethical dimensions and the consequences, apprehensions and possibilities of the technology.

» Image Films, Ahmedabad, is producing a documentary on the "Fascinating Ferrofluids". This 20 minute programme will highlight the applications of the ferrofluids in our daily life like television, telephone, tape recorder, credit card, etc. Apart from the area mentioned above, Ferrofluids have a wide range of applications ranging from pharmaceutical to industrial areas.

» A Freelance Producer based in Mumbai is producing a health related quickie, titled 'Heart Talk'. The programme will present the scientific facts about what brings on a heart attack, how to recognise the symptoms of an impending heart attack and examines the treatments available through new generation medical technology and how to safeguard the heart with preventive measures.

#### Programmes Produced

📺 Jigyasa - Ek Jhalak

📺 Fascinating Fluids

📺 Space to Life

📺 Heart Talk



- »» A Freelance Producer based in Mumbai has proposed “Marvel of the Day”, a daily series each episode of 20 minutes duration. The programme would signify the importance of the day in terms of any scientific discovery or invention, birth of scientists or any other science related event.
- »» Animation based quickies explaining the biological cell and the atom are being planned with leading animators based in Ahmedabad.

### **Programme Distribution**

The programmes produced for the Channel besides being telecast on the network would also be made available in the form of Internet files, CDs, on consumable (non-broadcast) tapes on request, etc. These could be disseminated to universities, schools, and the remote areas, where transmission may not be available. The programmes may be marketed and disseminated through the Newsletter of DECU and Vigyan Prasar and the networks of science clubs. These clubs can also be the monitoring centres to obtain feedback from the audience and participants.

### **Channel Management Structure**

The structure may be autonomous but it is essential to get the support of the government organisations. The framework of the system would be designed to maintain transparency in decision making. The idea is to evolve a decentralised strategy for management and production system. The regional workshops have helped to identify agencies in these areas, which could act as focal points for organising activities like training, production and research. The functional roles for the channel could be shared by the organisations, whereby DECU can take the managerial aspects and co-ordination and Vigyan Prasar may take up networking with various organisations and individuals. The battery of persons and experts from Vigyan Prasar could be further utilised for software production of Science Channel.



## Science Channel's Business Plan

The Science Channel aspires to have compelling content that would pull and attract the audience, through a combination of top-line and bottom-line marketing strategies have the best route for reaching the homes of the audience. It shall also be self-sufficient by generating its own revenue though profit making is not its primary agenda. To have this right mix a viable business plan for Science Channel is being conceived that would define the right path. In short, the business plan is the roadmap for realising the 'Vision Statement' keeping in mind the ground realities. Whatever the management structure, the revenue/budgetary allocation plans would be formulated in the business plan that would detail the marketing, distribution, personnel, infrastructure and software licensing plans.

According to this plan, in the Year Zero, Science Channel will buy time on Doordarshan, National and its other channels. The purchase of time would be for two (2) half hour segments targeting women (2 – 3 pm) and youth (6 – 8 pm). This would give the Channel an opportunity to build an image and name for itself, be able to reach viewers' home, simultaneously build up stock and revenue. It will be an opportunity to pre-test the programmes vis-à-vis the audience needs and thereby the luxury of mid-course alterations and corrections. The team would eventually gain experience and the time period may be regarded as a run-up to starting our own channel. This would also be the ideal time to build the Science Channel website/portal.

The Science Channel is likely to be launched on August 12, 2005 and in this Year 1, the Channel will be available in Hindi and English with Tamil and Telegu Channel to be launched in the subsequent years to come. The regional audio links of the channel will be made available in a phase manner. The channel shall be Free-To-Air till the management decides otherwise.



Group Work in progress -  
Guwahati Workshop



Management Group deliberating -  
Bangalore Workshop



## Name for the Channel: The Opinion Poll

With the inputs that were received from the various workshops and the results from the competition, ten (10) possible names for the Channel were selected. This list was sent to a few selected experts from the field of science, literature, film and television medium and their opinion on the above mentioned names for the channel was sought. The experts were asked to rank these ten (10) names, on a scale of 1 to 10, with the most preferred name to be ranked 1, while the least preferred be ranked 10. Out of the 40 letters sent, 14 responses were received. Based on these 14 responses the mean was arrived at.

*(Refer Annexe - C Page No. VI for more details)*

### RESULTS OF THE OPINION POLL

RANK	NAME
1.	ANANT
2.	TATVA
3.	DHRUV
4.	VYOM
5.	ARTH
6.	AVANI
7.	COMPASS
8.	INDRADHANUSH / RAINBOW
9.	VISMAY
10.	SHOONYA

## Science Brief Tool Kits – (Tool kit meant for producers of science programmes)

During the course of analysis of the existing 142 programme briefs, it was found that some sort of support material should be provided to the programme makers. This supporting material will help the programme maker to understand the subject in a better way and also help them in presenting the science concept. Thus, it will help in serving the purpose of the programmes more effectively. Additional information for

अनन्त

Never ending...

The Endless Journey...

Discovering New Things, Everyday...

Unlimited...Knowledge,

Curiosity, Information...

**anant**

तत्व

The element, the essence,  
substance, the soul or the  
central part.

**tatva**



each brief (around 200) would be provided. The information would have:

- i) the text book linkages of the concept,
- ii) suggested popular readings on the subject,
- iii) references to the website giving information on the subject,
- iv) list of Indian organisations/institutions working on the subject, activities,
- v) experiments and demonstrations which can help to explain the concept,
- vi) basic simple diagrams where ever necessary,
- vii) typical questions asked by the students and the answers to these questions.

These tool kits would be reviewed by scientists, media, communication experts and other resource persons.

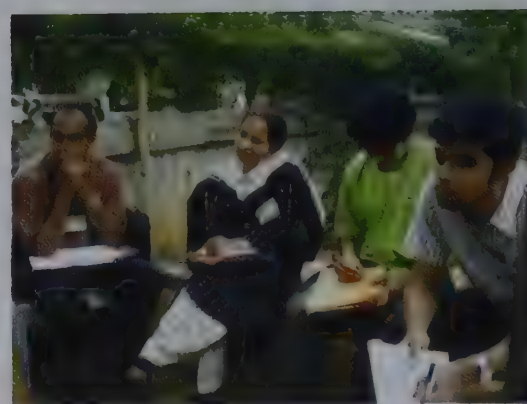
### **Communication Brief Writing**

Efforts are on to generate communication briefs on the subject of Environment, Biotechnology and Forensic Medicine. CEE, Ahmedabad is generating 20 communication briefs on Environment for Children. Similarly, agencies that would generate briefs on biotechnology are being identified. Dr. Raji Pandrangi (Kapila), Hyderabad is engaged for generating the Forensic Science briefs.

### **Portal for the Science Channel**

In today's business environment, people use multiple disconnected systems to do their jobs – e-mail, office documents, Intranets, enterprise applications, analytical tools and the Internet. Portals are implemented with the intention of bringing together the various applications and information that knowledge workers need to do their jobs more effectively. Besides Portals also provide a basic forum where audience in large gets served. These portals bind people from various interests through a single delivery

*Vikram A Sarabhai Community  
Science Centre has taken the  
responsibility of generating these  
tool kits. 20 tool kits on various  
topics in physics, chemistry, biology  
and general science are ready and  
more are being generated.*



Interactivity Group Work at Bangalore  
Workshop



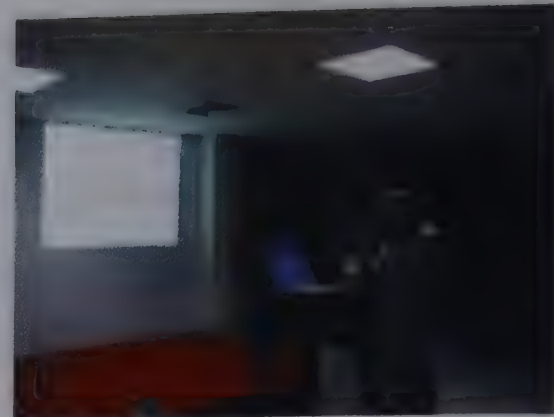
platform. Portals improve productivity by giving everyone you do business with suppliers, partners, customers and employees – one place to go to get all of the electronic resources available from your organisation, minimizing time spent searching or training on complex applications.

The website/portal of the science channel should complement as well as supplement the television channel. It should serve as the communication link (for producers), information link (for students) and be a knowledge bank. The producers may be facilitated by the website to submit the proposals online and down load all required forms from the site. The website requires a full-time editorial team to maintain and upgrade it continuously. Though the website would be a part of Science Channel it shall also be an independent entity. *(Refer the Annexe - B Page No. II)*

### **Technical Operating Standards for Science Channel**

Most of the Science Channel programmes may be/will be produced by the outside Producers, Directors, Institutions, Production Studios, or any other recommended Organisation or acquired. To bring in consistency in formats and operations, common technical standards for Science Channel needs to be devised. The programme makers will be required to submit the programme keeping in mind these standards. The master videotape should be in the format recommended by the Technical Science Channel Authority. The audio/video quality of the received master programme must be evaluated by the 'Test & Evaluation Tech. Committee' of Science Channel with a standard evaluation set-up.

The Master video programme evaluated must be compared with the tech. Parameters (the parameters will have allowable tolerance in terms of level-1, level-2 and level-3). The programme may be evaluated throughout the length of that or spot evaluation as the case may be. Any deviation in the technical parameters in the quality evaluation of master programme, i.e. the quality not falling in any of levels mentioned above, the programme would be sent back for



Presentation on ICT  
at Kolkata Workshop



ICT Group Work at  
Bangalore Workshop



correction, or the programme may be removed from the scheduled broadcast.

The master tapes evaluated, successful completion of which, will certify the quality for transmission. Science Channel may provide technical assistance to all who may request it, to ensure acceptable and legal standard video quality.

*(For more details refer the Technical Document)*



### The Science Channel Perspective

Over the deliberations in various meetings and workshop, a definite perspective has evolved that will enable us to realise the objective of Science Channel.

#### Software Aspects

- Science is indeed universal, but the life experiences are region and culture specific and therefore all the programmes on the Channel will represent an Indian outlook.
- The programmes will interpret Science, Social Science, General Science, Engineering and Technology with not too much stress on producing programmes on pure science.
- The programmes along with giving authentic information, will also be fascinating to watch, entertaining and educating. It will relate to the immediate environment of our people and contribute towards improving the quality of life by enhancing their ability and empowering them to handle their life on day to day basis with a better understanding of the issues.
- The programmes will be thoroughly researched. It is through the synergy between content development, production quality and audience needs that the channel will come up with programmes which are authentic and exciting.
- Different formats would be blended together to sustain interest in the programmes. Use of animation and/or computer graphics in programmes will be encouraged. Science fiction may also be exciting and entertaining for the viewers.

*Objective of the Channel is to popularise science and unravel the phenomena of science. The effort of the Channel is to develop a scientific approach and attitude. It certainly does not intend to make scientists and technologists out of everyone, but to play a catalyst for everyone to get essential information, to draw upon as and when required.*



- The programmes would be participatory. Interactivity is the most important aspect of this channel, also the USP for the channel. All India interactive sessions with the common public and students sitting in the studio can discuss topics, ask questions and get the answers. This two-way communication strategy is an effective tool to penetrate into the community, schools and colleges.
- Language remains one of the bigger challenges, as the channel desires to cater to people throughout the country.
- The criteria to identify good programme should not only be TRP or revenue. A programme may be able to meet both the criteria of TRP and revenue but if no science is learnt out of it, the programme should not be considered ideal to be telecast. On the other hand, a programme may contain all the right social aspects but if it is not exciting it will not attract attention of the viewers. So a balance is very essential while identifying a good programme.
- Archiving is an important issue for software generation.

### **Target Audience**

- The focus is on reaching the “unreached”. Today TV broadcasting has become all about elite group of people. Hence programmes to be designed to cater to maximum number of people, which is essential for the channel to enter the mainstream. TV caters to viewers with electricity and so a sizeable audience gets left out. The endeavour should be to include those who are always left out.
- 70% of the audience for such a channel will be people from the age group of below 30 years, so presentation of programmes should always be tailored to cater to target audience.



## **Programme Makers**

- Not all can produce science-based programmes.
- Encourage fresh talents and these programmes may not fetch immediate returns but will be of immense importance to build the future of young people.
- The workshops can help to identify the individuals who have potential to produce quality science programmes.
- Scientists, professors and other resource persons should be involved in programme making where they may be a part of the team, which usually includes producers, technicians and artists.

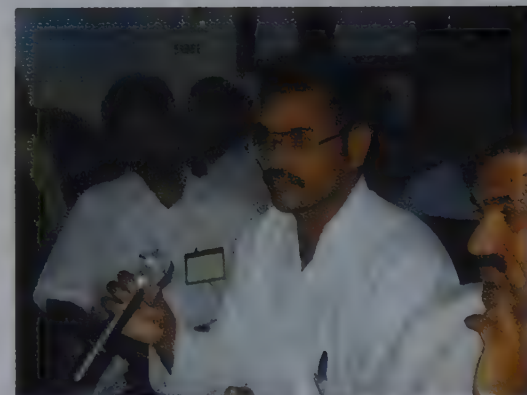
## **Management of the Channel**

- The Channel ideally is to be owned by the community.
- Poor management structure kills best of ideas and concepts. Hence the structure has to be designed thoughtfully so as to minimise the chances of failure. It is necessary that precaution be taken in the beginning so that an organisation like this does not drift towards a direction from which there is no come back.
- The organisation should have few clear guidelines and approaches, rather than detailed enumeration. The Science Channel organisation cannot be static.
- Ideal operational channel is the speed of decision making. And so a balance between participatory element and speed of decision making process has to be maintained. Participatory framework may be adopted at the planning stage, but there should be a strategy for the faster execution of these plans.
- This venture has to be independent of government control.





- The structure may be conceived as a Web with no clear or apparent organisational structure. Features like Video on Demand will change the whole concept of the channel.
- The management structure of the channel will be framed to incorporate the strengths of both the government sector and the private sector, with no huge organisation or production infrastructure.
- It would be essential to build a relation of mutual trust and understanding and cautiously introduce transparency in decision-making so that the producers may not feel concerned about their ideas getting stolen and the projects being rejected.
- Marketing: The programmes need to be marketed and promoted in this era of commercialisation and rigid competition where each channel is vying to be visible and seen.
- The management body would require a committee that advises it in the aspects of funding. The initial funding may come from Government of India but subsequently the Channel will have to explore various options of revenue generation and funding.
- The management structure should be lean-mean and flexible enough to change, which is interactive and carries out a lot of market research. There can be a small core group, which invites proposals, finds out what is it that the audiences want and then interact with the programming team.
- The programming team should be freelancers. The programmes may either be commissioned or on invitation basis. There is therefore the requirement for a mechanism that would evaluate the proposals. 60% - 70% of the total programming has to be entertainment kind of programmes and the rest of the 30% can be educational, which will be part of the main stream programmes.





- Two-three regional units in each state may be set up.
- It is necessary to measure success of the Science Channel.
- The success actually means to act as an effective catalyst to inculcate scientific temper, arouse curiosity and introduce an element of creativity through the programmes.

### **Self-sufficiency of the Channel**

- Initially the Government may do the funding but the Channel will make conscious strive to be self-sufficient from day one.
- Self-sufficiency can be achieved only over a period of time – may be three to four years.
- Build the brand identity and attract advertisers. Merchandising through fairs, products, shops, etc. Selling Telecast Time, up linking and rental of time, video conferencing (all possible only if it operates as a pay channel).
- Find out allies in other government departments like AIDS Control Society.
- The channel should build corpus fund and identify various alternative sources of funding. Should not completely depend upon funding of the government organisations.
- The channel should be prepared to fund creative filmmakers and also invest some funds on research and thereby drive some amount of scientific research.
- Pay channels do not have advertisements and so the first few years the Science Channel should be FTA. It should try out a pilot by buying slots on any existing channel. It can also work out a tie-up with foreign channel abroad. Give some slot free and



invite software and the revenue yield may be shared.

Name and Logo of the Channel

### **Name and Logo of the Channel**

- Should not be Science or Knowledge, but Excitement.
- The name for the proposed channel would be in English and/or Hindi, should arouse curiosity, have an “Indian-ness” attached to it and as far as possible should not directly indicate science or education.
- The concept of logo design will depict the basic elements of science, its manifestation in universe and relevance to our day to day life and environment, in which we all live in.

### **Advertisement**

- The channel has the potential to attract local advertisements and corporate advertisements. Some of the advertisements may not confirm to the vision as envisaged for the Science Channel. Hence it is necessary to chalk out a formal code for accepting advertisements for the channel.

### **Distribution Policy**

- The decision as to how to reach the homes of the viewers is a very crucial one. The Science Channel desires to reach not only all the cable and satellite homes spread across the length and breadth of the nation, but also hope to reach the “unreached”. Therefore the technology it will adopt should have the dynamism to include all.
- DTH technology will be helpful for the Channel, as the possibility of Video on Demand will encourage interactivity. Cable Operators have to be taken into the consideration. Unless and until a special USP is

जिज्ञासा

The curocity...

...to explore, discover the world around us.

...to know, understand the world beyond.

jigyasa

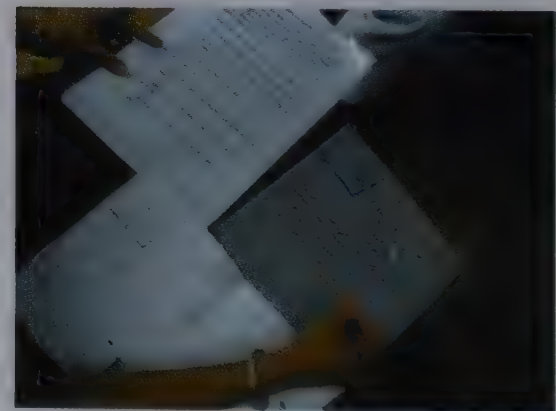
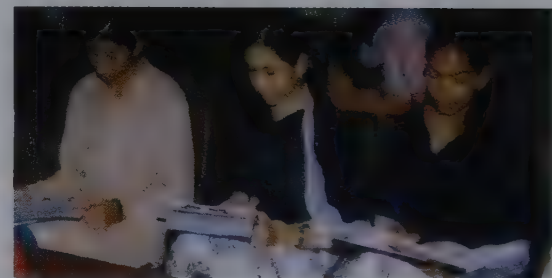


not attached to the channel, they may not broadcast the channel.

- The Channel may orgainse Melas in the rural and semi-urban areas of the country. In remote areas, kiosk is also a possibility, which is similar to “community viewing” with a difference that a big LCD would be placed instead of TV screen.
- It can encourage local entrepreneurship.
- For smooth operations of the Channel marketing and promotion are important aspect as they enhance visibility of the Channel. Selling CDs and video tapes to schools and colleges and merchandising. The programmes may be documented and disseminated in the form of printed material. These books will perhaps have the longest lasting value.
- The Channel may have interactive terminals in some of the existing clubs. The 5000 clubs all over the country can form a large chain of community centre. Vigyan Prasar’s network of science clubs and Nehru Yuva Kendras, Sangathans may be tapped into.
- If the content is uploaded on the Internet, people can access the programmes globally.

### **Alternate Media**

- This channel will be well beyond television broadcasting and network television.
- Television as a medium of communication is not the only technology that may be explored. Radio, Internet and other modern means of communication like mobile phones, faxes, sms all should be explored.





THE GIST

1. The Approach of the Channel: A mix of appropriate communication strategy, authentic content, good quality programmes, transparent management structure, self-sufficiency, marketing, promotion, archiving and community participation.
2. To begin with the channel should focus on a definite viewer group and try to tackle issues related to their lives and then proceed further with the regional channels.
3. The programme would be made in Hindi and English simultaneously initially and then eventually broadcast the programmes in other regional languages.
  - The Science Channel could begin with 1 Video and 2 Audio (Hindi/English) Digital transmission. The English language feed will give the channel an upscale premium look while the Hindi language feed will provide the necessary reach and viewership figures by attracting the mass audiences.
  - Tamil and Telegu Audio feeds can be added in the third year of the operation.
4. Modern TV Channel Management is complex, requiring team efforts.
  - A small central body or agency – either a society (like National Geographic) or an autonomous body with DOS – DST working together or a consortium that would be responsible for running the channel.
  - The central body would have functions like administration of running the channel, to co-ordinate and identify the creative agencies and obtain quality programmes, training of the

Initially, the programmes  
would be made in  
Hindi and English...

Quality is the key  
to sustenance...

Creative Teams...

Evaluation Mechanisms...

Self-sufficiency...

Sustainability...

Alternate Media...



personnel at the regional units. The team has to work sincerely, with understanding of self-correction, acceptance of failure and accountability.

- A creative team will conduct research functions in terms of channel research and monitoring and evaluation in addition to the subject research.
- Some of the existing agencies may be identified as regional units to work with local production agencies and scientific agencies for generating ideas and materials.
- The local and regional agencies would be involved in programme production forming a three-tier structure. So there is no need to create a new infrastructure either for production or for management.

5. Key issues like Content, Sales and Marketing and Distribution have to be addressed. With CAS/DTH still evolving, distribution remains a major issue to be tackled.

6. While the support of the Government for the project is imperative, the private institutions, bodies would also be pivotal in ensuring sustainability and long term financial viability of the channel. The agenda of the Channel though is not profiting but to assist it to be self-sufficient.

## 7. Evaluation Mechanism

- A mechanism of periodic on-course evaluation and corrections should be incorporated. An advisory board may assist the management on evaluation and programming.
- The targets should be set in terms of quantity/quality of programmes, viewership and revenue and above all the fulfilment of the vision of the channel, which is science learnt.

*The Science Channel  
Website/Portal would  
function as the connecting  
link amongst the audi-  
ences, programme-makers  
and the broadcasters*



8. A Pilot Project is also being envisaged with the aim of image/name building for itself, reach viewers' home and simultaneously build up stock and revenue. In the Year Zero, Science Channel will buy time on Doordarshan, National and its other channels. The purchase of time would be for two (2) half-hour segments targeting women (2 – 3 pm) and youth (6 – 8 pm).
9. The Science Channel is proposed to be launched on August 12, 2005. In the first few years, the Channel will have Digital Free-to-Air mode for the transmission until the management decides otherwise.
10. During the pilot project phase the Channel will construct the Science Channel website/portal.
11. The alternate medium of radio will also be explored by the Channel apart from the use of other media like mobile phones, SMS, Internet, postcards, etc.
12. Quality is the key to self-sustenance as “good programmes” would attract viewership, popularity, advertisers, well wishers and thereby revenue. Marketing and promotion of programmes will obtain viewership while good quality programming will ensure long lasting viewership. Identifying target audiences will help in tailoring the programmes to their needs. Therefore investing in good quality programming is the need of the hour.









## **ANNEXES**

- A. RECOMMENDATIONS OF THE NEW DELHI MEET
- B. PORTAL OF THE SCIENCE CHANNEL
- C. A COMPILATION OF THE SUGGESTIONS FOR THE NAME OF THE CHANNEL
  - C.1 From the Workshops
  - C.2 The Opinion Poll
  - C.3 DECU Task Team
- D. A TYPICAL SCHEDULE
- E. LIST OF PARTICIPATING ORGANISATIONS







## **ANNEXE - A**

### **RECOMMENDATIONS OF THE NEW DELHI MEET**

1. The Channel should not be named as 'Science Channel', rather should be given an interesting and attention-grabbing name.
2. All the programmes should integrate Indian context.
3. The programmes should be interesting and interactive enough to create and sustain interest for science.
4. All the programmes should be fabricated such to be equally interesting for the formal sectors (students, institutes) and the non-formal sectors of the society.
5. Programme should lay more emphasis on the scientific concepts rather than deriving results and should be presented more in a demonstrative way or be activity based to try out in daily life.
6. Science should be treated from the 'Learning Science' point of view than the 'Teaching Science' view.
7. Fun element should play the major role in the programmes
8. Before the full launch of Channel, pilot programmes should be experimented with on the existing channels for calibrating the eventual effect.
9. Should establish a rapport with the audience, which eventually increases the impact of the programmes.
10. Should develop a suitable yardstick for audience success.



## **ANNEXE - B**

### **PORTAL OF THE SCIENCE CHANNEL**

#### **1. AN OUTLINE OF THE PROPOSED SYSTEM**

The Science Channel is an endeavour towards setting up an Enterprise Portal, which can address the basic issues of collaborative work effort. The Science Channel will streamline the workflow through collaborative service. The Science Channel will provide an interactive medium/forum between ISRO, the Programme producers and the audience in large. The basic objectives of Science Channel are:

- Provide Interactive Media/forum between ISRO, Producers and audience.
- Promote participation
- An effective Electronic Resource accessible
- Effective Communication System
- Automated Information Flow Management
- Effective Management System for Diverse form of Audience and Effective Delivery Mechanism

#### **❖ Scope of the System**

##### **❑ Content Management**

The Science Channel will streamline the entire information management process by providing effective electronically accessible collaborative resource. The science Portal will enable the knowledge workers to submit/post their Research Paper, Articles and Inventions under relevant groupings.

##### **❑ Collaborative Service**

The Science Channel offers a collaborative environment where different science and knowledge workers will be able to interact and share their work, ideas and thoughts. For example, two scientists who are building up a database of simulation events will be able to keep track of what each other is doing, and remain aware of new developments to the applications programs.

The Science Channel would provide an interactive forum between the employees, the producers and the audience in large. The collaborative service includes electronic interactions among users in different physical locations in real time ("synchronous") and at different times ("asynchronous") through instant messaging system, discussion forums, document sharing, video conferencing.



The Science Channel will catalyze the participation and involvement from a larger audience through an array of informational services including Bulletin Boards, FAQ's, Message Boards, E-Mails, News Letters, Online Meetings (Chats) and Discussion Forums.

#### **❑ Information/ Content Management**

The Science Channel provides automated information dissemination process enabling various stakeholders an updated view of the broad gamut of scientific activities happening within or outside the organisational purview.

#### **❑ Programme Broadcasting**

The Science Channel will also cater to general audience in large by providing them with varied theme based science programs.

#### **❑ Programme Guide**

The Science Channel enables them to view schedules/program guides of their favourite science programs. They can also personalise the scheduler in terms of their favourite science channels and science programs involved within it. The science Channel will also enable them to choose from vast array of content deliverables making personal content delivery.

#### **❑ Search Engine**

The Science Channel will provide broad search (be it a search on particular document/content or search on catalogue) on their entire current and archived portal contents. The Search Engine is power to make further refinements.

#### **❑ Commercials**

The Science Portal also features certain science-based commercials. The Portal enlists different rocket models, posters and science-based publications, white papers and enables users to have online purchase through online shopping cart. The Portal registers and manages the various purchase orders received. The Portal facilitates users with an online subscription facility for various forthcoming seminars. The Portal provides various infotainment services catering to broad audience in large.

#### **❑ Producers Section**

The Science Portal also provides a distinctive service targeted specially to the program producers. The Portal will provide facilitator service to these producers, by providing them the details of desired programme types, themes and also a view of such archived sample programs. The Portal enables the producers to upload their program videos directly from their access point. The portal provides personalized page to each producer for tracking and checking status of their submitted programmes



### ☐ **E-Learning**

The Science Portal also presents an e-learning module where users can check different available course/programmes and can online subscribe for the same.

### ☐ **Expert Locator**

The Portal will provide required contact details of experts on particular subject area to facilitate users.

### ☐ **Subscribe**

The Portal will allow individuals to register an interest in or subscribe to a particular component or category of content. The Science portal will then notify the subscribers when the content changes or new content is added.

### ☐ **Personalisation**

The Portal will allow individual users to have settings for each of portal functions they use. The portal will provide the framework for users to store the settings and tailor the content that they are interested in seeing.

### ☐ **Banner Advertisements**

The Portal will manage all the banner advertisement postings, their frequency and updations.

## **2. PROJECT MANAGEMENT**

### ☐ **Implementation Plan**

The implementation of the project can be done in a phased manner wherein the results and response at each step will be assessed before planning further.

## **3. VALUE PROPOSITION**

### ☐ **Promotes Scientific Channel**

The Portal offers various services like programme guides (both weekly and daily), video streams and sample programs. The portal provides comprehensive information about the programs aired on science channels. This would help promote science channels that are aired on e-media.



## ☐ **Allows Easy and Faster Information Dissemination**

The Portal through its collaborative service enables users to share their work, ideas, thoughts, articles, and publications. The portal supports remote access thereby enabling synergy in work process.

## ☐ **Instigates and promotes Scientific endeavours**

The Portal offers several commercial offers and enables online purchase, thereby instigating scientific interest among the audience in large, besides generating revenue source for the organisation.

## ☐ **Revenue Source through Commercials**

The Portal offers several commercial offers and enables online purchase, thereby instigating scientific interest among the audience in large, besides generating revenue source for the organisation.

## ☐ **High transaction**

The Portal offers rule-based personalisation, using implicit and explicit personalization business rules. This enhances visitor experience and increases portal transaction through improved visitor return rates.

## ☐ **Customization**

The Portal offers skins that can quickly customize the look and feel of the portal. Group and end user customization facilitates customer to select his preferred portal content. This increases visitor return rates.

## ☐ **Remote Source through Banner Advertisements**

The Portal enables banner advertisements and thereby not only creating and additional revenue source but also the transactional rates.

## ☐ **Management of Digital Assets**

The Portal manages the entire digital assets on a rule-based taxonomy. The entire current portal content along with the archived content is maintained on the portal database in desired format. This enables faster retrieval in case of portal wide search.

## ☐ **Search Option**

The Portal enhances value proposition by offering an efficient and customized search engine.



## ANNEXE - C

### A COMPILATION OF THE SUGGESTIONS FOR THE NAME OF THE CHANNEL

#### C.1 From the Workshops:

- β Notion of progress, nature, knowledge, discovery - Vismay, Jigyasu, Why? Or Y? Koutuk, Adbhut, Rahasyamay, Anokhi, Amulya, Karishma
- β Notion of progress, speed - Arohan, Gatiman, Jagriti
- β Sense of companionship, networks and interaction - Dosti, Dost, Yaari, Saathi, Saath-Saath
- β Of Fire and Light - Chingari, Tejas, Shola, Ulka, Spark, Jugnu, Aalok, Divya, Agni, Ujwal
- β Of Sun and Stars - Arunoday, Aaftab, Ravi, Dhruvtara, Dhruv
- β Discovery as a journey - Yatra, Yatri, Pathik. Rahi, Phirnaara, Humrahi
- β One needs to discover and invent to find directions - Compass, Khoj, Khoji, Avishkar, Anveshan, Disha
- β A sense of range and variety on the Channel - Spectrum, A-Z, Indradhanush, Rainbow
- β The sweep of knowledge, vision, wisdom - Drishti, Parichay network, Gyanvani, Gyandoot, Gyanstrot, Channel Gyani, Gyan Vriksh
- β Of life, experience and eras - Jeevan, Seevak, Darpan, Anubhav, Vaastav, Hayyat, Yugantar
- β Nature and our world - Prakriti, Vasundhara, Ila, Prithvi, Jagat, Srishti, Hamari Duniya, Avani, Dharti, Bhoomi
- β Sources, Streams and Waves - Srot, Dhara, Leher, Urmi, Jharna

#### C.2 The Opinion Poll

- Shoonya**      *The beginning of knowledge, science. Yet on a more philosophical note it is nothingness that encompasses everything, symbolically.*



<b>Vyom</b>	<i>Denoting Sky/Space, Vast Endless Creation. The Nothingness from where Everything Arises.</i>
<b>Avani</b>	<i>Nature and our World. Avani meaning earth.</i>
<b>Dhruv</b>	<i>Of sun and stars. Dhruv (Pole) Star serves as a marker of direction.</i>
<b>Compass</b>	<i>One needs to discover and invent, to find direction. The English word 'come' is combined with the Hindi word 'pass' meaning 'close'. The combination cues the coming together of ideas.</i>
<b>Indradhanush</b>	<i>A sense of range and variety on the channel.</i>
<b>Arth</b>	<i>The Reason, Meaning, Economics. The homo sepians need to know the reason for everything, the meaning of everything and the 'arth' of everything.</i>
<b>Vismay</b>	<i>Notion of wonder, knowledge, discovery.</i>
<b>Tatva</b>	<i>The Element, The Essence. Tatva the element means substance, essence. Tatva means the soul or the central part. It is also indicative of truth that is based on actual facts and principles.</i>
<b>Anant</b>	<i>Never ending, The Endless Journey. We keep discovering new things everyday and the discovery has no end. Unlimited Knowledge, Curiosity, information...</i>

### **C 3. DECU TASK TEAM suggested;**

❖ **Avani**

❖ **Anant**

❖ **Vyom**

❖ **Jigyasa**

❖ **The Science Channel**



**ANNEXE - D**  
**(A TYPICAL SCHEDULE)**

**INTENSIVE MEET**  
*for*  
**SCIENCE CHANNEL**  
September 11 - 12, 2003

**VENUE: SAC, BOPAL CAMPUS**

**SCHEDULE**

<b>Day-1</b>		<b>Thursday, September 11, 2003</b>	
	0900 - 0930	Registration	
<b>Inaugural Session</b>	0930 - 0940	Welcome	S K Subramanya
	0940 - 0950	The Journey so far	Subhash Joshi
	0950 - 1005	Planning for Future	B S Bhatia
	1005 - 1030	Edusat Spacecraft and Ground Segment Configuration	Arup Dasgupta
	1030 - 1040	Role of Vigyan Prasar	Vinay Kamble
	1040 - 1055	Opening Remarks	Yash Pal
	1055 - 1100	Vote of Thanks	S K Subramanya
	1100 - 1130	Tea Break	
<b>Session I</b>	1130 - 1300	Brainstorming on Science Channel Vision Statement	Chairperson: E V Chitnis
			Discussant: Subhash R Joshi
			Panel Discussion: Siddharth Kak, Sanjay Biswas
			Open Forum
	1300 - 1400	Lunch Break	
<b>Session II</b>	1400 - 1530	Management Structure	Chairperson: Kartikeya Sarabhai
			Discussant: B S Bhatia
			Panel Discussion: N J Rao, Sreenivas Bhatt
			Open Forum
	1530 - 1545	Tea Break	
<b>Session III</b>	1545 - 1715	Self Sufficiency for Science Channel	Chairperson: Sugata Mitra
			Discussant: Chandita Mukherjee
			Panel Discussion: Ashoke Chatterjee, Kaushik Dutta Sharma
			Open Forum
	1715 - 1800	Tea	
	2000 - 2200	Dinner	



Session IV	1000 - 1040	Logo and Name	Chairperson: Vikas Satavlekar
			Discussant: S K Subramanya
			Comments by Committee Members
			Open Forum
	1040 - 1145	Presentation of Sample Programmes	V O Joseph, Chandita Mukherjee
			Open Forum
	1145 - 1200	Tea Break	
Session V	1200 - 1300	Programme Distribution Strategies	Chairperson: Kaushik Kumar Datta
			Panel : N Rajan, Sugata Mitra
			Open Forum
	1300 - 1400	Lunch Break	
Session VI	1400 - 1530	Towards realization of the Channel • Content and Approach • Software Generation Strategy	Chairperson: Ashoke Chatterjee
			Discussant: Meena Raghunathan
			Panel Discussion: J N Desai, Sreenivas Bhatt, Parimala Inamdar, Namita Malhotra
			Open Forum
Session VII	1530 - 1540	Concluding Session	B S Bhatia, Subhash Joshi
	1540 - 1600	High Tea and Departure	

*\*Not all panelists have confirmed*

**September 13, 2003**



## **ANNEXE - E**

### **LIST OF PARTICIPATING ORGANISATIONS/PARTICIPANTS**

#### **A. Science and Technology Organisations (GOs and NGOs)**

1. Assam Science Society, Guwahati
2. Assam Science Technology and Environment Council, Guwahati
3. Axis Technology, Bangalore
4. Bose Institute, Kolkata
5. CDAC, Kolkata
6. C-DIT, Trivandrum
7. Centre for Ecological Sciences, Bangalore
8. Centre for Environment Education, Ahmedabad
9. Centre for Environment Education, North East
10. Centre for Environment Education, Southern Regional Cell Bangalore
11. Centre for Science Education, Shillong
12. Council for Scientific & Industrial Research, New Delhi
13. Department of Biotechnology, New Delhi
14. Department of Environment and Forest, Shillong
15. Homi Bhabha Centre for Science Education, Mumbai
16. Indian Institute of Astrophysics, Bangalore
17. Indian Institute of Science, Bangalore
18. Institute for Kidney Diseases and Research Centre, Ahmedabad
19. Inter Universal Centre for Astronomy and Astrophysics, Pune
20. International Institute of Information Technology, Hyderabad
21. Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
22. Karnataka Rajya Vigyana Parishad, Bangalore
23. Kerala Shastra Sahitya Parishad, Kozhikode
24. L V Prasar Eye Institute, Hyderabad
25. MAHITI InfoTech Pvt. Ltd., Bangalore
26. Mizoram Pollution Control Board, Aizawl
27. MS Swaminathan Research Foundation, Chennai
28. Nagaland Pollution Control Board, Dimapur
29. National Council of Science and Technology Communication, Department of Science and Technology, New Delhi
30. National Council of Science Museums, Kolkata



31. National Institute of Mental Health and Neuro Sciences, Bangalore
32. National Institute of Science, Technology and Development Studies, New Delhi
33. NIIT Ltd., New Delhi
34. Nuclear Science Centre, New Delhi
35. Regional Research Laboratory, Jorhat
36. Regional Science Centre, National Council of Science Museum, Guwahati
37. Satyendra Nath Bose Centre for Basic Sciences, Kolkata
38. Science and Technology Department, Kohima
39. Science Association of Bengal, Kolkata
40. Science Communicators' Forum, Kolkata
41. Science Teacher's Forum, Imphal
42. Tamil Nadu State Council on Science & Technology, Chennai
43. Tripura Science Forum, Agartala
44. Vikram A Sarabhai Community Science Centre, Ahmedabad

## **B. Media Organisations**

45. Abhivyakti Media for Development, Nashik
46. Black Magic Motion Pictures Pvt. Ltd., Kolkata
47. Cinema Vision India, Mumbai
48. Comet Media Foundation, Mumbai
49. Diamond Creative Visual Pvt. Ltd. , Kolkata
50. ECO MEDIA, Chennai
51. Educational Media Research Centre, Kolkata
52. ETV Bangla, Kolkata
53. ETV Network, Hyderabad
54. Image Films, Ahmedabad
55. Impact Vision, Mumbai
56. Mindarc Media, New Delhi
57. Movie Makers, Kolkata
58. NDTV, Bangalore
59. Pedestrian Pictures, Bangalore
60. Public Service Broadcasting Trust, New Delhi
61. Rahales Little Theatre, Kolkata
62. Satyajit Ray Film and TV Institute, Kolkata
63. Sukriti Productions, Kolkata
64. The Telegraph, Kolkata



### **C. Communication and Research Organisations**

65. Centre for North East Studies & Policy Research, Guwahati
66. Centre for Social Work and Research, Agartala
67. Communication for Development and Learning, Bangalore
68. Development Research Communication and Services Centre, Kolkata
69. Eklavya Institute of Educational Research and Innovative Action, Hoshangabad
70. Vikramshila Education and Research Society, Kolkata

### **D. Non Government Organisations**

71. Akash Sutra Pvt. Ltd., Kolkata
72. Alternative Law Forum, Bangalore
73. Arunachal Women Welfare Society, Itanagar
74. Association of Voluntary Blood Donors, Kolkata
75. Azim Premji Foundation, Bangalore
76. Bharat Gyan Vigyan Samiti, Bangalore
77. Central Young Mizo Association, Aizawl
78. Centre for Advocacy and Research, New Delhi
79. Center For Knowledge Societies, Bangalore
80. Community Health Cell, Bangalore
81. Darpan, Guwahati
82. Deccan Development Society, Hyderabad
83. DISCOVER IT!, Mumbai
84. Early Birds, Guwahati
85. Institute for Rural Industrialisation, Ranchi
86. Jala Spandana-South India Farmer's Organisation for Water Management, Bangalore
87. Jana Sankriti, Madhyamgram ternative Law Forum, Bangalore
88. Madhyam, Bangalore
89. Pragathi-Farmer's Society for Rural Studies and Development, Bangalore
90. Riddhi Management Services, Kolkata
91. Roopkala Kendra, Kolkata
92. Samvada, Bangalore
93. Shape, Kolkata
94. Social Initiatives Group, ICICI, Mumbai
95. Swanirbhar, Kolkata



96. The art (action northeast trust), Bongaigaon (N)
97. The People's Group, Kohima
98. Voices, Bangalore
99. Water Users' Association, Bangalore
100. You Are What You Think, Kolkata

## **E. Educational Institutes**

101. Assam Agriculture University, Guwahati
  - College of Veterinary Science, Dept. of Medicine
  - College of Veterinary Science, Dept. of Pharmacology
  - Horticulture Research Station
102. Assam Engineering College, Guwahati
103. B J Medical College, Ahmedabad
104. Cotton College, Dept of English, Guwahati
105. Department of Secondary and Higher Education, New Delhi
106. Gauhati University, Dept. of Zoology
107. Indira Gandhi National Open University, Educational Media Production Centre, New Delhi
108. J.N. College, Boko
109. Jadavpur University
  - Department of Film Studies
  - Electrical Engineering Department
  - School of Educational Technology
110. Karim City College, Jamshedpur
111. Loreto Day School, Kolkata
112. N.G. College, Guwahati
113. National Institute for Advanced Studies, Bangalore
114. National Institute of Design, Ahmedabad
115. National Law School of India University, Centre for Child and the Law, Bangalore
116. NCERT, Department of Education in Science & Mathematics, New Delhi
117. SNDT Women's University, Department of Extension Education, Mumbai
118. Social Communication Media Department, Sophia Polytechnic, Mumbai
119. Srishti School of Art, Design and Technology, Bangalore
120. St. John's Medical College Hospital, Bangalore
121. St. Joseph's College, Department of Environmental Science, Bangalore



122. St. Xavier's College, Department of Mass Communication & Videography
123. The Heritage School, Kolkata
124. University Grants Commission, Consortium for Educational Communication
125. University of Hyderabad, Sarojini Naidu School for Performing Arts, Fine Arts and Communication, Hyderabad
126. University of Kerala, Dept. of Communication and Journalism, Trivandrum,
127. University of Madras, Dept of Anthropology, Chennai
128. Vidyasagar University, Medinipur
129. VN College, Boko
130. White Memorial Hostel, Guwahati

#### **F. Other Government Organisations**

131. State Institute of Panchayat and Rural Development, Govt. of West Bengal

#### **G. Freelancers**

- Programme/Film Makers
- Communication Experts
- Journalists
- Social Researchers



## **Acknowledgements**

### **We are grateful to...**

*...all the participants who attended and actively presented their opinions and concerns regarding the issues discussed during the workshops at New Delhi, Mumbai, Kolkata, Bangalore, Guwahati and Ahmedabad. We are thankful for the variety of suggestions by them.*

*...all the discussants who provided the platform and direction to the themes and issues contested in the panel discussions and to the panelists for carrying on with the debate bringing out the various facets of the topics discussed.*

*...Dr. Vinay Kamble, Director Vigyan Prasar/DST for the support throughout the process, Ms. Chandita Mukherjee of Comet Media Foundation, (Mumbai) for coordinating the Mumbai, Kolkata and Bangalore Workshops and Ms. Meena Raghunathan of Centre for Environment Education, Ahmedabad for providing support to the Guwahati and Ahmedabad Workshops.*

*...Ms. Subha Das Mollick, from the Department of Mass Communication and Videography, St. Xavier's College, (Kolkata), Prof. Sanjay Biswas of the Indian Institute of Sciences (Bangalore), for coordinating the Bangalore and Guwahati Workshops. Also, Ms. Mary Ann Joseph of Centre for Environment Education, Bangalore, and Mr. Soumen Dey of Centre for Environment Education, Guwahati, for extending their support to these workshops.*

*...the team of Researchers who conducted and presented the Viewer's Perspective Studies.*

*..the team of rapporteurs from SNDT College in Mumbai, from St. Xavier's College in Kolkata, from Srishti School of Communication in Bangalore, from the Institute of Journalism and Mass Communication in Guwahati and from Vikram A Sarabhai Community Science Centre in Ahmedabad.*

*...Ms. Mrinal Vyas Ayyangar, Project Researcher for her significant contribution in coordinating of the Ahmedabad Workshop as well as preparation of support material.*

**SCIENCE CHANNEL TASK TEAM  
DECU/ISRO**







Science Channel is the collective undertaking of Development and Educational Communication Unit (DECU) of Indian Space Research Organisation (ISRO) and VIGYAN PRASAR of Department of Science and Technology (DST). The endeavour of both these organisations would result in conceptualising, formulating, designing and implementation of Science Channel.

For conceptualization, structure and appropriate implementation of Science Channel, two major Committees/Groups have been formed at DECU, namely the Conceptualising and Planning Group (C&PG) and the Core Group (CG).

The function of the Conceptualising and Planning Group as the name suggests, is conceptualising and planning for the Science Channel with the help of VIGYAN PRASAR/DST, whereas the Core Group is responsible for implementation, co-ordination and follow-up. The Core Group and the Conceptualising and Planning Group meet once in a week to discuss about the progress and the required course of action. To speedup the process of implementation, the members of the Core Group were specified the following tasks:

1. Developing the transmission plan
2. Listing of probable subjects, topics of programme production and sources of acquisition of the programmes
3. Software Generation Strategies
4. Proposal and Programme Evaluation
5. Generation of Communication briefs
6. Name and Logo of the Science Channel
7. Hardware/Technical Parameters
8. Conceptualising the Portal of Science Channel

#### CONCEPTUALISING AND PLANNING GROUP

Chairperson

**Mr. Subhash R Joshi**

Members

**Mr. Bharat Dave**

**Mr. R K Pandey**

Member Secretary

**Mr. S K Subramanya**

#### CORE GROUP

Chairperson

**Mr. S K Subramanya**

Members

**Mr. S P Patel**

**Mr. Anil Vyas**

**Mr. K M Parmar**

**Mr. M M Vaghasia**

**Mr. Prafull Bhavsar**

**Mr. Bhargav Thakkar**

Member Secretary

**Ms. S A Deshpande**

Above all these committees, there is a **Monitoring and Review Committee** consisting of:

Chairperson                      Mr. B S Bhatia, Director, DECU

Members                              Mr. S R Joshi, Group Director, Social Research Group, DECU  
     Mr. A K Sangal, Group Director, Configuration Studies and Systems  
     Analysis Group, DECU  
     Mr. Bharat Dave, Head, Video Production Group, DECU  
     Mr. R K Pandey, Head, Video Engineering Group, DECU

Member Secretary              Mr. R G Gade, Group Director, Programme Planning Group, DECU

**Dr. Vinay Kamble, Director Vigyan Prasara/DST is co-ordinating the activities for Science Channel at DST.**









# the Science Channel

Jigyasa Vyom  
Compass  
Arth tatva Anant  
vismay Dhruva



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